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July/Juillet 1987 Vol. 53 No. 7

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JOURNAL

Canadian Dental Association

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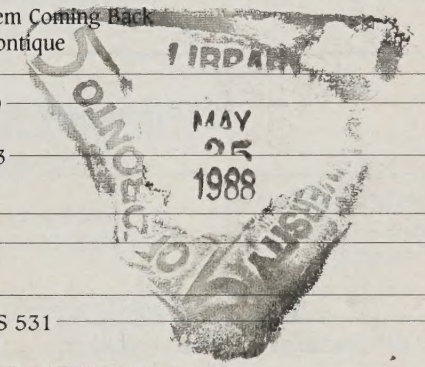

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COVER PHOTO

The photo on this month's cover is from the scientific article in this edition: "Oral leukoplakia: A collective study", by Dr. K.G. Pillai et al. The illustration shows an area of homogenous leukoplakia in the floor of the mouth.

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THE JOURNAL AN OPEN FORUM

The Letters to the Editor pages attract a large volume of participation when an article, news story, editorial or a previously published letter appears to attack a dental motherhood issue.

Writers flock to the fray, to set the record straight, or to correct mis-stated statistics.

Eventually the volley of heat-seeking missives ebbs, and peace returns again to the editorial offices.

But it should not be so.

There should never be any question of access to the Letters to the Editor pages – at any time – by anyone in the dental community in Canada.

Your reason for firing off a letter to the editor should not be restricted to explosive issues. The writer may be in such a highly emotional state that the comments can be inflammatory or libellous.

We are not for a moment suggesting that those who have the background and answers to defuse an incendiary issue shouldn't attempt to defend the ethics and principles of the Canadian Dental Association, dental specialty organizations or any other venerable professional institution.

On such occasions, be our guest – use our forum.

But we would much rather see a steadier flow of letters – letters offering good clinical advice as the result of some clinical observation, letters warning of future trends which may positively or negatively affect dentistry, or commendation to someone for a job well done.

These pages offer one of CDA's most democratic vehicles of expression.

It is difficult for us to understand, on occasion, why so few dentists avail themselves of such a valuable vehicle.

Many of us are not gifted with Churchillian abilities to sway audiences by the sheer brilliance of our oratorical skills. All too often we prefer to sit and listen to those who do have those skills to some extent. The thought of trying it ourselves is stifled by nervous self-consciousness and the feeling of why try?

But many of the same shrinking violets are quite capable of expressing thoughts concisely and convincingly on paper. We all have thoughts, advice or constructive criticism, that, if expressed on these pages, could be surprisingly helpful to a colleague somewhere else in Canada.

We urge you to express these concepts or recommendations when they do occur and not allow them to escape your mind. We think it is a pity to have such a valuable platform as our "letters" pages under-utilized.

Don't wait until someone has made you "hopping mad." Words written in anger or to seek revenge are usually regretted.

We hope you will accept our invitation at your earliest convenience.

The rules applied are few in number. We do insist on signed letters, leaving no doubt as to the source of the opinions expressed. And we cannot accept abusive language.

So don't hesitate. Participate!

Clarence Metcalfe
Associate Editor, JCDA.

All statements of opinion and supposed fact are published on the authority of the author who submits them and do not necessarily express the views of the Canadian Dental Association, unless such statements or opinions have been adopted by the Association. The editor reserves the right to edit all copy submitted to the Journal.

News Update

SALES TAX EXEMPTION CERTIFICATES FOR ANAESTHETICS

The CDA has been informed that dental offices purchasing anaesthetics are being sent sales tax exemption certificates for completion.

The federal sales tax status of anaesthetics is determined by definition and content. Anaesthetics containing a schedule controlled drug or the drug "epinephrine" are federal sales tax exempt. All anaesthetics purchased for *hospital* use only, where such hospital has been certified by Health and Welfare Canada as bona fide, qualify for *special tax exempt status*.

Therefore for the average dental office, it is unnecessary to complete the certificate of sales tax exemption. However, if you qualify for the special exemption through certified hospital status, a certificate of exemption should be completed.

For further information, please call Sandra Deziel at the CDA – 613-523-1770.

CDA FORMS COMMITTEE ON DENTAL SPECIALTIES

At the April 1987 Interim Board of Governors meeting, the CDA Board approved the formation of a Committee on Dental Specialties.

The Committee will be a standing Committee of Executive Council and will operate under the following terms of reference:

1. Structure

a) One representative appointed by the Specialty Organization representing each of the Dental Specialties recognized by the CDA
b) One observer named by the RCDC*
c) The Chairman to be appointed annually by the President of the CDA
d) Committee Membership be appointed for three year term, once renewable

*Cost of RCDC Representative to be borne by RCDC.

2. Meetings

a) One meeting annually to be held at CDA Headquarters or at a location approved by the Executive Council
b) If additional meetings are required, authorization by the Executive Council is necessary
c) The standing policy regarding CDA funding of meetings will apply

3. Responsibilities

a) To provide a forum for discussion of common interests and concerns of the specialists and/or specialty groups in Canada
b) To review and report on items referred to the Committee by the Executive Council
c) To report annually to the Executive Council on Committee's activities and recommendations

In order to provide ongoing continuity of membership the following adjustment to the initial three year terms have been made:

Canadian Academy of Endodontics	Year 1	Term 1
Canadian Academy of Oral Radiology	Year 1	Term 1
Canadian Academy of Periodontology	Year 1	Term 1
Canadian Association of Oral and Maxillofacial Surgeons	Year 2	Term 1
Canadian Association of Orthodontists	Year 2	Term 1
Association of Prosthodontists of Canada	Year 2	Term 1
Canadian Academy of Oral Pathology	Year 3	Term 1
Canadian Academy of Pediatric Dentistry	Year 3	Term 1
Canadian Society of Public Health Dentists	Year 3	Term 1

Commenting on the new Committee, CDA's Executive Director, Jardine Neilson said that "this matter has been under review for some time and the CDA is now most pleased to welcome the specialty sections of Canadian dentistry to the formal Committee structure of the national dental association."

ODA DEALING WITH 'NEW AND UNPRECEDENTED CHANGES'

Dr. James Brookfield

"New and unprecedented changes . . . fuzzy thinking" by politicians, and a breakdown of ethics on the part of some members of the dental profession, "which opens the door for capitation to thrive" post great challenges for the profession in Ontario, said Dr. James R. Brookfield, the new President of the Ontario Dental Association following his inauguration at the ODA's 120th Annual Spring Meeting in Toronto in May.

Dr. Brookfield, a Kirkland Lake, Ontario, general practitioner for 16 years, was

installed by the outgoing President, Dr. Bernard Dolansky, an Ottawa orthodontist.

"The public is just not sympathetic" to the profession's concerns and tends to support the new trends "if they can obtain our services at a reduced cost. Our cherished respect is waning!" Dr. Brookfield continued.

Slackening of ethics

The new president identified the "root problem" as a slackening of ethics. "We must eradicate our own illness before the government does it their way." He explained that if it is done the government way, "quantity wins over quality, every time!" He said the (Ontario) Government is also restraining health budgets and thereby curbing the quality and choice "which the public deserves."

The great peril in Ontario, he said, is that action detrimental to the dental profession may be taken by the "government, not by the RCDS, or your peers.

"We must find a way to work cooperatively on these matters. The ODA can solve these problems which are too large for us to handle as individuals."

Dr. Brookfield, an active member of the CDA, has served as an Ontario member of the CDA Board of Governors.

Communications vital — Dr. Dolansky

The ODA faced "massive problems" during his year in the presidency, Dr. Dolansky told delegates. But "instead of being paralyzed with fear", the Association confronted these issues and enjoyed success in several areas, he said.

"We must read the implications of what is happening to our profession," he said, and give leadership in telling "the ordinary dentist" what he or she can do.

Communications are vital in the face of such major crises, Dr. Dolansky said.

For this reason, he reported, the ODA has recently established a strong new communications team. A staff of three has been engaged, headed by Doreen Guthrie as Director of Communications.

Dr. Dolansky identified some of the major concerns as measures contemplated by the Ontario Ministry of Health that threaten to control the health professions.

However, he said, the ODA has enjoyed "great success in other areas of government relations."

Another matter of major concern — capitation — is now well in hand, he reported.

"The ODA is on the case. Thanks to all of us, there is no true capitation left in Ontario!"

He explained that "industries themselves

Dr. Bernard Dolansky, left, outgoing president of the ODA, presents the Barnabus Day Award to Dr. Bradley Holmes, right, during the president's luncheon.

Dr. James R. Brookfield (behind podium) receives the chain of office and commendations of Dr. Bernard Dolansky, left, as he becomes President of the Ontario Dental Association.

Dr. Melvin Charendoff of Willowdale, Ont., recipient of the Barnabus Day Award, tells ODA Spring Meeting delegates this honor was "unnecessary" because he has enjoyed providing the "outstanding" services being recognized by the ODA.

are coming around to realize that fee-for-service is still the most plausible system of all!

"We are in a war to guard our principles!" he concluded.

Barnabus Day Awards

Dr. Bradley Holmes of Kenora, Ontario, a recent Past President of the Canadian Dental Association and also of the Ontario Dental Association, was one of the two recipients of the ODA's highest distinction for service – the Barnabus Day Award.

Dr. Holmes was cited for his work on behalf of the ODA as President and support of ODA projects, such as the Sioux Lookout project for native people in Northwestern Ontario.

He said he was pleased to receive the honor while he was still active "instead of somewhere down the road when I would not be so well known and nobody really cares."

Dr. Melvin Charendoff, who was President of the ODA in 1975 and later served the CDA, and who has made "an outstanding contribution as a senior officer of CDSPI," shared the Barnabus Day honors.

Dr. Charendoff considered the honor "unnecessary" because, he said "I am doing things which I so thoroughly enjoy. I am flattered to be honored by my colleagues."

'Accountability' session

Following the presidential luncheon, an "accountability" session, an innovation at this year's ODA Convention, was conducted in a cinema at the Sheraton Centre.

At the session, chaired by ODA's Executive Director, Mr. John Gillies, Dr. Dolansky, Dr. Brookfield and President-Elect Dr. William A. Glave, made themselves available to answer delegates' questions about ODA policies, structure, activities and objectives.

Dr. Dolansky opened the two-hour "bear pit" feature with a detailed explanation of some of the major issues of concern to the ODA and dentists of Ontario.

Delegates to the Convention, which reached a total registration in excess of 3,000, had a wide choice of clinics to attend, ranging from scientific presentations to practice management, patient communication, photography in dentistry and counselling members of the profession with emotional or chemical dependency problems.

A wide variety of dental products and services were displayed and explained in the massive exhibit area. A total of 227 booths had been set up by dental products manufacturers and suppliers.

Dr. Roger Ellis, right, Chairman, Department of Dental Health Care, Faculty of Dentistry, University of Alberta, and chairman for CDA's 1988 Convention, mans a booth at the ODA Convention in Toronto with Florence Ingham, Administrator of the Mobile Dental Clinic Program of the University of Alberta, extolling the attractions to be enjoyed in Alberta in 1988.

Photo by Clarence Metcalfe

Mr. A. Jardine Neilson, Executive Director of the Canadian Dental Association, brought greetings of the ODA.

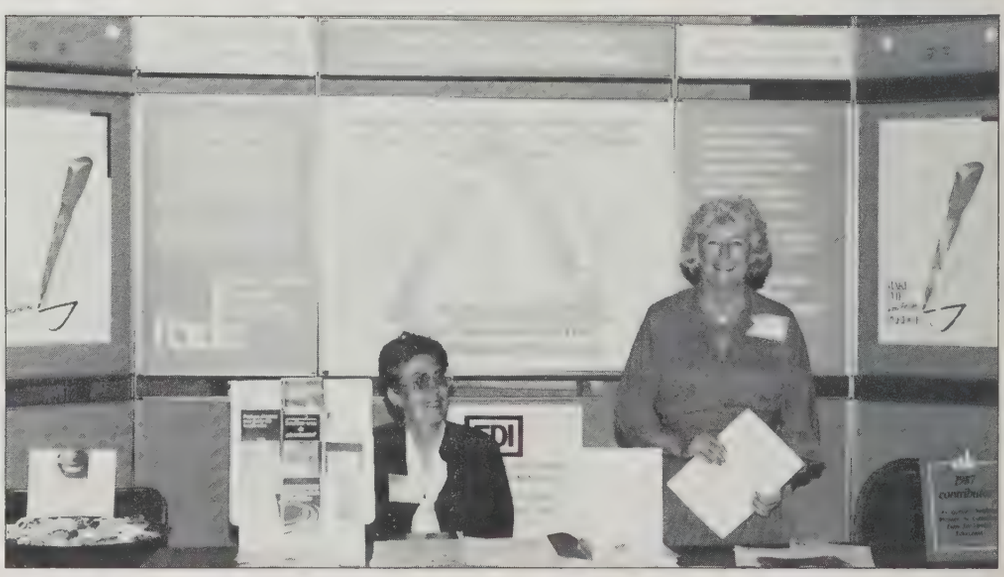


Photo by Dr. Roger Ellis

CDA Pamphlet Administrator Kathy Mactaggart, standing, chats with Anna Spencer, Advertising Manager of the Journal of the Canadian Dental Association, at the CDA booth.

Dr. William A. Glave

DR. WILLIAM GLAVE NAMED PRESIDENT ELECT OF THE ODA

An Aurora, Ontario, dentist, Dr. William A. Glave, became President-Elect of the Ontario Dental Association at the ODA's 120 Annual Spring Meeting in Toronto in May. He will assume the presidency in 1988.

One of his most notable achievements has been his part in the establishment of ODA's Dentist at Risk Program. The Program helps dental colleagues suffering stress, alcohol or drug-related problems. Dr. Glave served as chairman of the DAR Program for its first 18 months.

He has been an ODA Executive Council member since 1984, and a member of ODA's Student Services Committee.

Dr. Glave has been a member, and later chairman, of the Dental Advisory Committee at Toronto's George Brown College. He also has served as a clinical instructor at that College.

He was graduated from the Faculty of Dentistry of the University of Toronto in 1965 and has conducted a general practice in Aurora, north of Toronto, since that time.

Three to Council

The appointment of three new members to the Executive Council of the Ontario Dental Association was announced at the Spring Meeting.

They are: Drs. J.B. Gibson of Midland, Ont.; R.D. Gillan of Brockville, Ont., and G.H. Sweetnam, of Lindsay, Ont.

CDA ESTABLISHES A PUBLICATIONS COMMITTEE

The CDA Editorial Board, which established policy and offered direction in the production and content of the Journal of the Canadian Dental Association, is no more.

In its place, and embracing a broader mandate, is the new Publications Committee, a standing committee of the CDA Executive Council, which, the terms of reference state: shall ". . .represent the general CDA membership in ensuring that CDA publications are effective and pertinent."

Members

Chairman of the new committee is Dr. John Hardie, formerly chairman of the Editorial Board. Members at large are: Dr. Ralph Crawford, a past CDA president, Dr. Pierre Desautels, who also serves as French language Scientific Editor of the Journal, and Mr. Jardine Neilson, Executive Director of the CDA.

The committee, the terms of reference explain, "shall make recommendations with regard to the fiscal, editorial, advertising and content policy of relevant CDA publications."

Recommendations

An Ad Hoc Committee on Publications was established at the 1986 Board of Governors meeting, to review and make recommendations on CDA publications and their future terms and interrelationships.

That committee served under the chairmanship of CDA President-Elect Dr. Ron Markey, and the members were Dr. John Hardie, Dr. Ralph Crawford, Dr. T. Koltek and CDA Executive Director Mr. Jardine Neilson. Miss Linda Teteruck was the principal staff person assigned to that committee.

The results of that committee's deliberations included recommendations to the 1987 Interim Board of Governors meeting in April that the former Editorial Board be disbanded and the Executive Council Standing Committee on Publications be established.

The Board concurred and approved the recommendations establishing the committee, its terms of reference, personnel, and terms of office.

DENTAL SCHOOL CLOSING SHOCKS STUDENTS, ADA AND FACULTY MEMBERS

Students, dental faculty members and American Dental Association officials, have reacted in anger and dismay at the apparently unheralded announcement that Georgetown University, Washington, D.C. will phase out its dental school over the next three years.

The largest private dental school in the United States will not enrol a freshman class this autumn. Incoming students, 117 of

Photos by Clarence Metcalfe

Members of the CDA Publications Committee pose following their inaugural meeting in May. They are, from the left: Dr. Pierre Desautels, Dr. Ralph Crawford, Dr. John Hardie (Chairman), and CDA Executive Director Mr. Jardine Neilson.

them, who had already paid deposits for tuition for dental courses they expected to take, have been advised to make other plans.

Facing 'financial disaster'

John F. Griffith, MD, Executive Vice-President for Health Sciences at Georgetown University, has explained that the dental school, established in 1901, was "facing a financial disaster" because of a sharp decline in applications and enrolments, a drop in outside financial aid, and noted that improvements in dental care has reduced patient demand.

Dr. Griffith said that fluoridation and the consequent decline in caries incidence and other aspects of improved dental care, is affecting the applicant pool. Students aren't applying, and, he added, "other schools are having the same problems."

The University President, Timothy S. Healy told dental school alumni in a letter that financial predictions are "dismal." He wrote that "we face continuing deficit financing. That deficit will increase in magnitude and will reach nearly $4 millions annually, within five years."

President Healy noted that the number of dental school applicants had declined from 3,926 in 1975, to 1,180 in 1986, a drop of 70 per cent in 11 years. He said that "at the same time, those students who are choosing dentistry are less qualified than in previous eras," and the grade point average of entering classes is dwindling to unacceptable levels.

Now 57 dental schools

The closing, according to an article in the ADA News (April 6, 1987) will reduce to 57 the number of dental schools in the United States, following the closing of the Oral Roberts University dental school, in Tulsa, Oklahoma, and the one at Emory, in Atlanta, Georgia.

Dr. John Griffith said "we are going to work with those (dental) students, every one of them, to see that they have places to go." The ADA Commission on Dental Accreditation is also concerned and ready to help. Dr. Mario Santangelo, secretary of that commission is concerned about maintaining the educational standards at the school during the phasing-out period. The Commission will monitor the quality of education "to ensure that it is not compromised. . ." Dr. Santangelo said.

Dr. Ashur Chavoor, a past trustee of the ADA and a Georgetown dental faculty member for a number of years, blames negative press reports for much of the problem. He believes University administrators have been influenced by the pictures of the dental profession presented in the "outside world". He said "they feel there's just not that great a future in dentistry as a profession."

He believes it will take a long time to reverse this "bad publicity" and show that dentistry really is a viable profession.

(Left to right) Dr. Arto Demirjian, Mrs. Pat Lecomte and Dr. Colin Dawes.

Dr. Arto Demirjian (left) congratulates Dr. Christopher Overall.

CADR AWARD WINNERS ANNOUNCED

Mrs. Pat Lecomte, a 3rd-year dental student at the University of Manitoba, and Dr. Chris Overall, a Ph.D. graduate student at the University of Toronto, were the winners of the 1987 Canadian Association for Dental Research Awards.

The presentations were made by Dr. Arto Demirjian, President of the CADR, at the annual meeting of the organization held in March in conjunction with the 65th General Session of the International Association for Dental Research in Chicago, Illinois. The awards, sponsored by the Procter and Gamble Company, were comprised of certificates and a cheque for $200 for the undergraduate award and $500 for the graduate award. Competitors for the award are required to submit a manuscript describing their original research work and suitable for publication in the Journal of Dental Research. This was the second annual presentation of the awards.

Mrs. Lecomte, was a 1983 graduate in Physical Education at the University of Manitoba, and has been an honour student and the winner of numerous awards while in Manitoba's Faculty of Dentistry. The title of her manuscript was "The Influence of Salivary Flow Rate on Diffusion of Potassium Chloride from Artificial Plaques at Different Sites in the Mouth". Her research supervisor was Dr. Colin Dawes.

The winner in the graduate category, Dr. Chris Overall, is a native of Sydney, Australia, and holds a Medical Research Council of Canada Fellowship. He has previously studied at the University of Adelaide, where he received the Honours Degree Bachelor of Science in Dentistry and a Master of Dental Surgery (MDS) in periodontics, and was the recipient of numerous awards. He has been Lecturer in periodontics at the University of Adelaide and Honorary Senior Visiting Dentist at the Royal Adelaide Hospital.

The title of the manuscript he entered in the competition was "Presence of a Novel Neutral Metalloproteinase, Active on Native ¾-Collagen Fragments, in Gingival Crevicular Fluid: Preliminary Characterization of the Proteinase Synthesized by ROS 17/2.8 Osteoblastic Cells". His PhD supervisor is Dr. Jaro Sodek, Director of the Medical Research Council Group in Periodontal Physiology at the University of Toronto.

THE CANADIAN ACADEMY OF ENDODONTICS

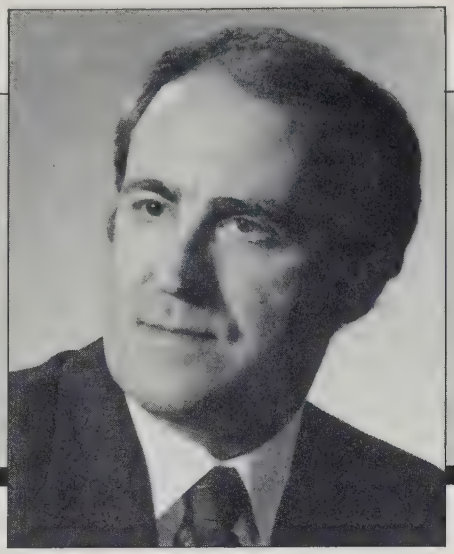
by Dr. Michael Sherman

(This is the latest in a series of articles on dental organizations in Canada).

In 1964, a group of Canadian dentists having a common interest in Endodontics gathered in Toronto to organize the Canadian Academy of Endodontics. The nucleus members at this initial meeting were: Dr. Clifford Ames and Dr. Merril from British Columbia, Dr. Isadore Wolch from Manitoba, Dr. George Hare, Dr. Al Thomson, Dr. Sam Rosen, Dr. Cal Torneck, Dr. Art Arshawsky, Dr. Charlie Aho, Dr. Norm Vickers, and Dr. Jerry Smith from Ontario, Dr. Louis Rosen, Dr. Wilf Johnston, Dr. Doug Richardson, Dr. Richard Archambault, Dr. Richard Silbert from Quebec and Dr. Don Eaton from Nova Scotia.

During these past years our organization has grown from this handful of special dedicated men, into a well organized, highly professional group consisting of over 125 members representing Canada from coast to coast. Membership is comprised of endodontists, generalists and educators all with the same goal of advancing the art and science of endodontics, and by its application maintain and improve the dental health of the Canadian public.

The Annual Fall four-day meeting of the C.A.E. is traditionally begun with the Academy's Teachers' Workshop where the dental faculties across Canada have an opportunity to sit and discuss a wide array of educational topics. This important day has been dedicated to the memory of our first Academy President the late Dr. George



PRESIDENT'S COLUMN

Dr. John R. Robertson

THE GRADUATES, 1987

Graduation is one of the most exciting times of our lives. Graduation from grade school is exciting in itself; however, when we come to graduation from our professional school, the day takes on a very special significance. We have finally completed our formal education. Or have we?

A senior professor once spoke to me just prior to graduation with these words "Young man, just because you have that expensive piece of paper in your hands, it does not mean that you know everything – it simply means that you have the capacity and the ability to learn". How right he was. My education was really just beginning. All of the things we learned in the classroom, the laboratories, the clinics would stand us in good stead for the myriad of subjects which we would learn over the next few months, ten years.

Many of this year's graduates will go into the various disciplines of dentistry; general practice, research, government, the military or one of our many specialties. Draw upon the information you have as a good grounding and a reference point. You have much to learn and your universities have given you excellent tools with which to carry on your profession.

You are fortunate to be in a country such as Canada and have studied at one of our ten excellent dental schools. All of you and all of your valuable education alone however, will not guarantee you a successful practice. And I cite the following from a recent Fédération Dentaire Internationale newsletter. "Hard work, a competent staff and quality patient care are no longer enough to guarantee a healthy practice – The dentist must practice his profession in such a way that patients are satisfied and convey this satisfaction to others in their environment."

Dentistry is a wonderful, enjoyable, rewarding profession and is held in very high regard by the public. Do not lose this respect. Become involved in your community, in your profession. Dentistry in the future will require the services of bright, forward thinkers like yourself and your confrères.

Do not forget about the seniors within our population. Geriatric dentistry is an extremely rewarding aspect of your practice. Your humanitarian skills will be tested. Your caring attitude and skilled hands-on approach, gentleness and caring will stand you in good stead. The satisfaction which you gain is immeasurable and your practice will continue to develop. Due in good part to our CDA dental awareness program, many of our seniors are better informed and have much more interest and a knowledge of good oral health as a part of their overall physical well being.

It is up to you to carry on the legacy handed on to you, the recent new graduates in Canadian dentistry. And for you to continue to enhance this honorable profession of ours, do not neglect your contact with dentistry outside of your office – through attendance at conventions, locally and nationally, continuing education courses, study clubs and the like, to enable you to keep in touch with developments in dentistry. When you stay in the mainstream, you will be continually aware of the latest materials and devices and the latest techniques. It is of value just to renew your acquaintance with dentistry.

I'll leave you with this thought which comes from the American Dental Association Code of Ethics I believe: "The privilege of a dentist, to be accorded professional status, rests primarily in the knowledge, skill and experience with which he serves his patients and society." Every dentist therefore has the obligation to keep his knowledge and skill current. Congratulations to you the recent new graduates, from the Canadian Dental Association, and welcome to the wonderful profession of dentistry.

Hare, who himself was concerned about the advancement of dental education and the continued striving for better teaching in our schools.

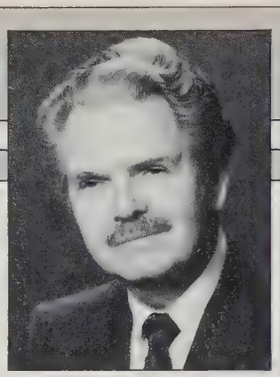
With the strength and dedication of the present executive the C.A.E. should continue to flourish and maintain its high degree of excellence and just as important the academy will continue to be the vehicle to bring good friends together to learn and to continue friendships.

1986/87 Elected Officers

Executive President	Herb Borsuk Montreal
President-Elect	Bill Christie Winnipeg
Treasurer	Lorne Chapnick Toronto
Executive Secretary	John Phillips Oshawa
Past President	Fred Weinstein Vancouver

Past Presidents

1965	George C. Hare
1966	George C. Hare
1967	Calvin D. Torneck
1968	Clifford Ames
1969	Alistair Thomson
1970	Louis J. Rosen
1971	Arthur I. Arshawsky
1972	Isadore Wolch
1973	Samuel Rosen
1974	E. Charles Aho
1975	R. Pierre Dow
1976	Benjamin Sedlezky
1977	Paul M. Vanek
1978	Jerry S. Smith
1979	John M. Phillips
1980	Stephan M. Brayton
1981	F. Bruce Burns
1982	Joel J. Edelson
1983	Michael S. Sherman
1984	Marshall D. Peikoff
1985	Barry H. Korzen
1986	Fred Weinstein



DID YOU KNOW?

Dr. P. Ralph Crawford

DID YOU KNOW: Last month we outlined the evolution of the Seal of Recognition and the Committee that oversees its application — The Committee for Consumer Product Recognition, chaired by Dr. Ralph Barolet.

DID YOU KNOW: The purpose of the program is to allow CDA to gather and disseminate information to assist both the public and the profession in the selection and use of reliable therapeutic products used in the prevention of dental disease. In awarding the Seal, the Committee takes into consideration evaluations from the Health Protection Branch of Health and Welfare Canada . . . their representative sits as an observer on the Committee. Also, regular communication is maintained with the American Dental Association counterpart; ADA's Council on Dental Therapeutics.

DID YOU KNOW: Before a product is awarded the CDA Seal, a company must apply in writing with supporting data of clinical and laboratory studies which attest to. . .

1. safety of the product
2. efficacy of the product
3. assurance that manufacturing and laboratory facilities ensure purity, uniformity of the product and accuracy of labelling.

DID YOU KNOW: CDA makes *NO* profit from the Seal program. It is not the intent of CDA to profit from a project that essentially is for the benefit and protection of the public. Charges to companies cover administrative costs only, and those incurred by the Committee. Total income from the Seal program has been budgeted at $24,000 for 1987.

An initial cost for a product is $5,000 and approval is given for a three year period, with a renewal option. The renewal fee is $2,000.

DID YOU KNOW: Until this year the Recognition Program covered 'anti-caries' approval only and all product packaging and advertising was allowed to publish the following statement. . . .

> *"Product"* contains *"Ingredient"* which is, in our opinion, an effective decay preventive agent, and is of significant value when used in a conscientiously applied program of oral hygiene and regular professional care.

DID YOU KNOW: Currently 17 fluoride tooth paste products from eight different manufacturers carry the Seal. All product and advertising materials must be vetted by the Committee.

DID YOU KNOW: With the ever-increasing number of consumer dentifrices and mouth rinses claiming plaque reducing qualities, the Committee for Consumer Products, after several years of intensive review and study, developed "Anti-Plaque Guidelines". These Guidelines received official approval from the CDA Board of Governors at their last meeting in April 1987. The Seal for these 'anti-plaque' products will be accompanied by . . . . .

> *"Product"* contains *"Ingredients"* which is, in our opinion, an effective agent for the control of supragingival plaque accumulation and gingivitis, and is of significant value when used in a conscientiously applied program of oral hygiene and regular professional care of periodontal diseases. This product has not been shown to control existing periodontitis.

DID YOU NOW: With the new mandate of anti-plaque materials, the Committee which now meets three times a year to renew applications, evaluate products and keep abreast of new development, will undoubtedly see increased activity. We wish them well in their endeavors as they protect the public with another of CDA's responsibilities — the Seal of Recognition.

> *"Man perfected by society is the best of all animals, but he is the most terrible of all when he lives without law, and without justice".*
> *(Aristotle)*

Dr. Crawford is immediate past-president of CDA and Chairman of CDA's Membership Committee.

AD LIB

By Cuspid

TIME MANAGEMENT

Time may be the great healer . . . but in a dental practice it can turn into an affliction if it's not used properly. And of course, as Benjamin Franklin said, time is money.

Consider time as a non-renewable resource. And then consider that 10 minutes of it saved each workday will gain you more than a full week of productivity in a year.

But the secret – in dentistry, as in most other endeavours – is not to *gain* time, but to manage it. For dentists, that means not only their own time but that of their staff and patients. As J.W. Barnett, DDS, points out in his article *'The gift of time'* (J. Clin. Orthod.) Vol. 17, No. 4, 1983): ''A well trained staff can have a substantial effect on office productivity. Scheduling eight hours a day with one (dentist), one assistant, and one chair, there are 480 productive minutes available per day. With one (dentist), five assistants and five chairs, there are 2,400 productive minutes available per day. Therefore, with proper office design and staff training, it is possible to accomplish as much in one day with five chairs and five assistants as would require a week with one chair and one assistant''.

Most dentists know that. But a further factor in time management is knowing themselves. For example, when are your most productive hours? For most people, energy levels are highest during the first three or four hours of the working day . . . so scheduling more complex procedures for those periods makes sense . . . leaving more routine work for the latter part of the day.

And scheduling time isn't necessarily only about work, either. To paraphrase the old expression – dentist, pace thyself. There's a life beyond work – and that takes time, too. There are days spent out of the office at courses or conventions; there are vacations and statutory holidays; there are staff meetings and administration. All of these require proper planning and dovetailing with hours spent in actual dentistry. Even there, there's the bane of cancellations and no-shows.

As your overheads increase, time spent on patient care – the only time for which you actually earn money – has to be used efficiently. That means utilizing office staff and space optimally; having the most appropriate and effective equipment – and maximizing patient flow.

And remember: using time isn't some frenetic Mack Sennett whirlwind of activity. Sometimes taking time can save time. Taking time to think about what you really want to achieve, how your staff could function better, how your patients can be made more welcome and more comfortable in your practice.

There's all kinds of reading you can do on the proper scheduling of appointments, or on how to minimize the effects of cancellations or no-shows. But, in the end, time, as Sir Francis Bacon put it, becomes a matter of choice: ''To choose time is to save time''. We all have the same amount of it in a day. The secret is to manage it wisely.

DENTAL HEALTH
LET'S KEEP IT Good For Life™
CANADIAN DENTAL ASSOCIATION

It could mean life or death for my children.

I have Huntington's disease, a hereditary brain disorder which passes from generation to generation, causing slow physical and mental deterioration leading to total incapacitation and eventually ...death.

I'm scared of what lies ahead for me but I'm even more frightened of what the future holds for my children. Each one has a 50:50 chance of inheriting the disease. That is why, what you choose to do now could mean the difference between life and death for them.

Recently, through research funded by your dollars, scientists have discovered a 'marker' which will lead us to the defective gene and hopefully a cure for Huntington's disease. No doubt it will come too late for me but with your help it could come in time to save my children.

Please send your cheque today and help make this the generation that beats Huntington's disease...forever.

Mail to:
The Huntington Society of Canada,
Box 333, Cambridge, Ontario
N1R 5T8

☐ Enclosed is my cheque to help fight Huntington's disease.

☐ I wish to be a volunteer.

☐ Please send me further information.

Name _____

Address _____

_____ Postal Code _____

All donations will be acknowledged and a receipt for income tax purposes forwarded promptly.
Charitable Reg. #0464040-11-15

Briefly

The Atlantic Society of Periodontology recently elected their Executive for 1986-87.

The new President is Dr. Christopher H. Hawkins, while the new Secretary-Treasurer is Dr. Marlene E. Mader. The Scientific Chairman for the Society is Dr. John Sterrett.

All of the Executive Members are with the Division of Periodontics at the Faculty of Dentistry, Dalhousie University, Halifax, Nova Scotia.

Having equipment problems? Call the Hot Line.

The Bureau of Radiation and Medical Devices of the Health Protection Branch of Health and Welfare Canada has instituted a toll-free "Hot Line" for reporting problems experienced with medical devices.

The bilingual service will be available from 8:30 to 4:30 in the eastern time zone, Monday to Friday. During that time period, staff will be available to answer calls. Outside of office hours, calls will be recorded by an answering machine, and callers will be guaranteed a call-back on the next working day.

In addition, a mail-in report form is also available to be used to outline information which is needed to carry out a full investigation. In Information Letter No. 721, from the Health Protection Branch, it was stated that: "all calls will be acknowledged and every report will be reviewed. The extent of the subsequent investigation will depend upon the severity of the hazard. The information pertaining to the medical device problem will be made available to the manufacturer."

Health care professionals and the general public are asked to report problems toll-free, by calling 1-800-267-9675.

More information is available from the *Director, Bureau of Radiation and Medical Devices, Environmental Health Directorate, Health Protection Branch, Tunney's Pasture, Ottawa, Ontario, K1A 0L2*

The Canadian Dental Association is currently asking for input from Councils and Committees, corporate members, licensing authorities, ACFD and dental faculties on CDA's role in geriatric dentistry.

At the November 1986 Executive Council planning session, geriatric dentistry was identified as an area requiring examination in terms of CDA's present and future role. In addition, CDA is requesting that Councils and Committees report on on-going activities in the area of geriatric dentistry which are taking place within the areas covered by the Council or Committee.

The preparation of a situational analysis delineating CDA's objectives in the area of geriatric dentistry is currently underway.

A Computer Based Learning Centre was recently opened at the University of Western Ontario for the students of the Faculty of Medicine.

The Centre will give students access to vast amounts of the latest medical literature, as well as access to medical information data bases. A variety of software programs are also available to aid students in clinical work, self-evaluation, independent study and testing their skills in managing patient problems.

While the Centre is not currently available to students of Western's Faculty of Dentistry, it may become available depending on the time available for use. According to Dr. David Lloyd, Director of the Centre, the availability of the Centre for use by other faculties, including dentistry, will be totally dependent upon the amount of time the Centre is used by medical students.

"However, the Dean of Dentistry, Dr. Ralph Brooke, went through the Centre and is very interested in the whole project," Dr. Lloyd told the Journal.

A new test to determine the number and growth of caries-causing bacteria is now available for use in dental offices and clinics.

Researchers at Apo Diagnostics Inc. of Toronto, and the Forsyth Dental Centre in Boston, have jointly developed the Cariescreen SM test which measures the presence and levels of the bacterium Streptococcus mutans in the mouth. The test is a simple in-office procedure in which the patient chews a wax tablet to stimulate saliva production and dislodge bacteria from the tooth surfaces. The saliva is then collected and mixed with a dilutant, a test slide is then dipped into the diluted saliva, removed and then incubated for 48 hours. The colony growth on the slide is compared with a colony density chart, to determine concentrations of S. mutans bacteria in the saliva.

The test will be useful to dental practitioners and will assist in both early diagnosis and preventive treatment for patients determined to have a high caries risk.

Mr. Robert Mech

Robert Mech has been appointed as the new Executive Director of the Canadian Lung Association.

Formerly Executive Vice President of the Real Estate Institute of Canada, Mr. Mech was also on the administrative staff of the Faculty of Medicine at McMaster University in Hamilton, prior to his career at the Real Estate Institute.

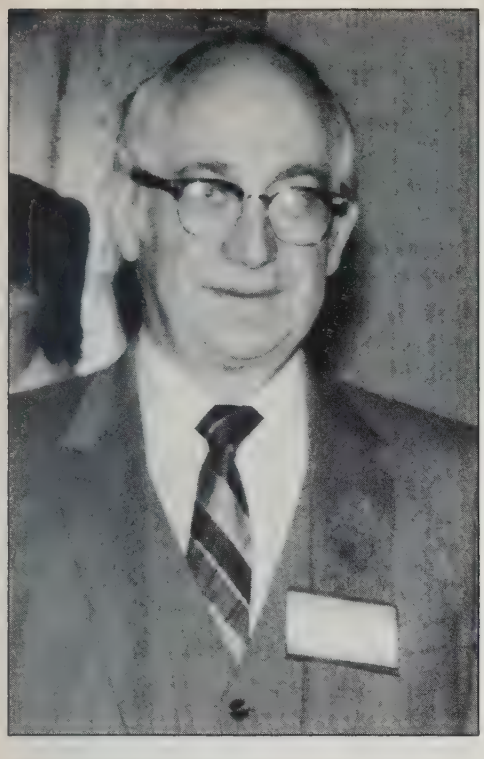
Mr. Mech is a graduate of Assumption University in Windsor, Ontario, where he earned his Bachelor of Commerce degree. He also holds a Certificate of Hospital Organization and Management from the Canadian Hospital Association.

Mr. Mech is married with three children.

The Faculty of Dentistry at the University of Manitoba was the first faculty to reach the campaign goal in the staff component of the university's Drive for Excellence development campaign.

Having set a goal of $75,000 to be contributed by staff members of the Faculty over a period of five years, campaign organizers were pleasantly surprised when the $75,000 goal was surpassed by early January 1987. Solicitation of funds had begun only in late 1986. The Faculty also had an 86 per cent participation rate by staff members.

Campaign organizers for the Faculty of

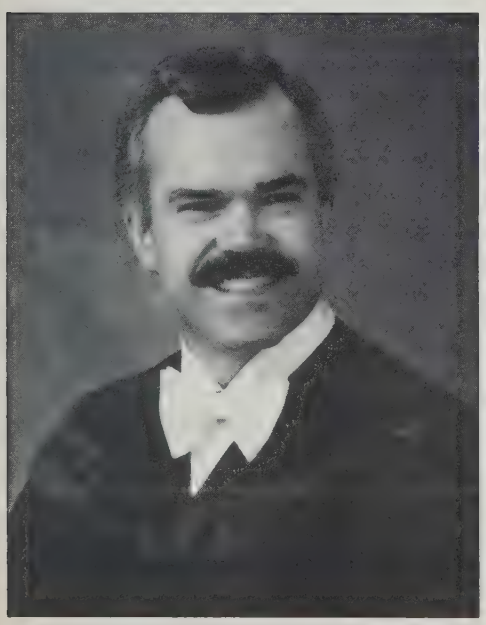


Dr. Arthur Schwartz, Dean of the University of Manitoba's Faculty of Dentistry.

dentistry were Drs. Arthur Schwartz, Sam Borden, Colin Dawes, Ralph Crawford, Jim Snidal and John Perry, as well as Prof. Bonnie Trodden, Joan Upton and Karen McLaren.

Recently the Academy of General Dentistry presented its senior student award.

Dr. Ed Karpetz was presented with the award by Dr. Donald C. Yu, Chairman of the Membership Committee, Alberta constituency. Dr. Karpetz is a graduate of the University of Alberta, and he received the award for showing "the greatest interest, knowledge and proficiency in general dentistry during the senior year."



Dr. Ed. Karpetz

"Talk to Me!" An American study recently revealed that patients prefer dentists and physicians to talk to them in an egalitarian fashion.

The study, of the communications styles of health care providers, found that patients don't like dentists to be passive or to be overly dominant. Rather, patients want explanations from their dental practitioners and want their dentists to be verbally responsive to their questions. Both male and female patients agreed that they preferred dentists whose communication style revealed a personal interest in the patient and in his or her dental condition.

The study was conducted in Lubbock, Texas, and surveyed 700 patients and 20 dentists in that community.

The Dental Council of Hong Kong recently announced that, effective April 1, 1990, primary dental qualifications granted in Canada, the United States and Australia will no longer be accepted for direct registration by the Dental Council.

All Canadian, American and Australian applicants will be required to pass the Hong Kong Council's licensing examinations as a pre-requisite for registration.

CDA RETIREMENT SAVINGS PLAN

Unit values: (Funds are valued weekly)

Fund	Unit values as at May 29, 1987	April 24, 1987
Fixed Income Fund	56.43377	55.37405
Common Stock Fund	143.50393	143.68046
Money Market Fund	37.46978	37.21374
Balanced Fund	24.77387	24.52419

Interest rates:

Guaranteed Fund Term	*Interest rates as at May 29, 1987	April 24, 1987
1 yr	8.45%	8.15%
2 yr	8.80%	8.70%
3 yr	9.25%	9.10%
4 yr	9.50%	9.25%
5 yr	10.00%	9.50%

(*rates subject to change without notice.)

Total Assets (Market value) of the Plan as of:

May 29, 1987	April 24, 1987
$84,368,182	$82,490,899

For further information:

Write: Canadian Dental Service Plans Inc.
Retirement Services Department
Suite 600, 2 Lansing Square
Willowdale, Ontario M2J 4Z3

or phone, toll-free:
Western and Atlantic Canada and Ontario Area Code 807 only 1-800-268-5418
Quebec and Ontario, (except Area Code 807) 1-800-268-3411
Metro Toronto Area . . . 497-7117

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PLEASE GIVE BLOOD.

Canadian Red Cross Society

Letters

MORE ON MARCH EDITORIAL

I am extremely disturbed by the Editorial by Dr. John Hardie, which appeared in the March issue of the Journal (vol. 53, No. 3, pg. 157). The title of the editorial was "Capitation, Guilty or Not?". Although I personally do not agree with Dr. Hardie's discussion, I certainly have no opposition to his right to express his own opinions. It would indeed be contrary to the ethics of our society and profession to deny such a right. I am also well aware that the opinion of Dr. Hardie's is not necessarily the opinion of the Canadian Dental Association.

However, I am not certain that all dentists are aware of this, nor can I be certain that representatives of the insurance industry, or other non-dental readers who may have access to the Journal, are aware of this. I am especially concerned that, on page 160 of the same issue, an advertisement apparently targeted to potential advertisers, indicates that the Journal is "The Official Voice of the Dental Profession in Canada". Such a statement would lead many to believe that an editorial written by the Chairman of the Editorial Board, and given such a prominent position in the Journal, including being listed separately in the Table of Contents, might, in fact, be indicative of the position taken by the Editorial Board, and perhaps by the CDA.

I am not suggesting for one minute that Dr. Hardie refrain from expressing his opinion. However, I feel very strongly that if he, or any other member of the Editorial Board, wishes to air his own personal views on this or any other subject, that he do so in the Letters to the Editor section, and merely sign the letter with his name and address, just as any other concerned dentist would.

Don Noble, DDS
London, Ontario

Editor's Note: *Dr. Noble is correct in stating that the March Editorial "Capitation: Guilty or Not" was an expression of opinion and did not represent the views of the Canadian Dental Association. Indeed, by definition an Editorial is "an expression of an opinion" (Webster's Third International Dictionary).*

OVERSHOT THE MARK

What hyperbole indeed! In your editorial "Capitation, Guilty or Not?" in the March 1987 issue of the Journal of the Canadian Dental Association, you have taken to task "the dental press" (in this case the ODA Action News October 1986, to be specific) for the comparison of the capitation issue with the "War of 1812". Such exaggerated use of history is inappropriate. Hyperbole is properly a literary device that is meant to objectify a known statement of fact. In this case its use as a device to portray our professions' present concern with capitation causes an over-shooting of the mark.

A more proper historically correct statement that is hyperbole would be the use of the analogy of the capitation issue and Canada's struggle for independence with the British Government, the outcome of which is exemplified by the Statute of Westminster (1931). A least this exaggeration

Even After Brushing With Fluoride, Teeth Need The Fluoride In Listermint.

Here's Clinical Evidence.

implies the notion of a political process, thus, highlighting the fact that matters of enlightened self interest are best resolved by consensus.

Nevertheless, by not only misquoting but also not appropriately qualifying your reference, the reader might be lead to believe that this is your use of words, thus establishing the confusion that pervades the rest of your editorial.

In your discourse generally you have presented a number of intelligent and useful facts. I applaud your ability to muster and present them so succinctly. Your editorial required a good deal of work. However, ultimately it lacks a focus. At this time it is a disservice to our profession to eddy about in a personal maelstrom of hypothesis, speculation, wishful thinking and hopeful expectation and then present that intra individual confusion as the basis for policy.

In the matter of retaining personal rights it would be ignorant of the profession to enter into a dialogue with a sense of shame and ambivalence. It would be equally foolish to fly off obtusely into the realm of global quantifiers such as "free enterprise", "entrepreneurial expertise" and "acquisition of profits". Simply put, our historical rights and privileges are now not only under question in *many* dimensions, but also they are imminently in danger of being considerably abrogated. This is not the time to bounce from one theory to another. The issue is quite clear. The insurance industry perceives an opportunity to profit at our expense.

Your editorial ends with a paragraph redolent with ambivalence "is capitation a demon etc. etc.". The fact of the matter is that the "appropriate verdict" as in the Statute of Westminster (1931) *will* be proven. As in that issue the *outcome* will be a judgement of what is appropriate after a consensual agreement by the adversaries. That truly will be the time for the use of historical hyperbole with examples such as: "keep your powder dry" and "don't fire 'til you see the whites of their eyes".

Donald A. Stewart, DDS
President
Academy of Dentistry Toronto

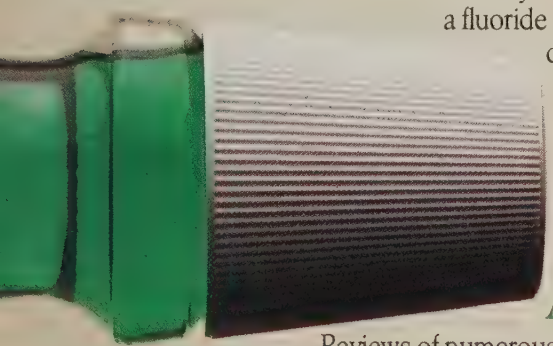
DR. HARDIE REPLIES

Thank you for forwarding a copy of your second reply to the editorial of March 1987 J. of C.D.A. You appear to agree with me that the reference to 1812 was an inappropriate exaggeration. I did not directly quote from the ODA article but offered an extrapolation of a statement made in the article. Quotation marks were not required and "dental press" was sufficient as a reference, as I had no wish to embarrass our provincial organization. Your reply publicly chastises the ODA, thus you may wish to forewarn the appropriate officials. While the editorial was not a scientific treatise the two articles mentioned were given appropriate references for the concerned or enthusiastic reader.

I appreciate the compliment regarding the succint presentations of a number of useful facts. Therefore, I have some difficulty in understanding why you found the editorial confusing.

You state that "the appropriate verdict . . . . *will* be proven." This implies that, at present, it is NOT PROVEN, which, if you recall, was the crux of the editorial.

In Scotland the NOT PROVEN verdict is a legitimate decision when there is insufficient evidence to prove guilt or innocence. The verdict may appear to be ambivalent, but to the initiated it is often a prudent and



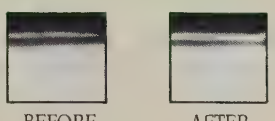
"My patients get plenty of fluoride from brushing and other sources. Why on earth would I recommend a fluoride rinse?" We understand your doubts. But the accumulation of evidence from independent clinical studies* has become so persuasive, we believe it will overcome your skepticism.

EVIDENCE OF ADDED PROTECTION.

Reviews of numerous independent studies[1,2,3] have concluded that a fluoride rinse enhances the (caries-reducing) effects of fluoride dentifrice. Additionally, repeated applications increase prophylactic value. Studies have also shown[4] that a fluoride rinse reduces caries among people receiving optimal water fluoridation.

LISTERMINT REVERSES THE EARLY STAGES OF TOOTH DECAY.

You are probably aware that fluoride dentifrice is effective in reversing the early stages of tooth decay. Listermint with Fluoride** has been proven to work the same way.[5] It acts to accelerate the remineralization of white spot lesions, reversing the demineralization process.



BEFORE AFTER

The dark shadow shows weak spots (decay) before and after treatment with Listermint with Fluoride.

RECOGNIZED BY THE CDA.†

Listermint with Fluoride has earned the Canadian Dental Association Seal of Recognition.

†Listermint with fluoride contains sodium fluoride which is, in our opinion, an effective decay preventive agent, and is of significant value when used in a conscientiously applied program of oral hygiene and regular professional care. The Canadian Dental Association.

YOU AND LISTERMINT WITH FLUORIDE.

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We welcome your comments and inquiries.*

*Please contact the Director of Professional Services, Warner-Lambert Canada Inc., 2200 Eglinton Ave. E., Scarborough, Ontario M1L 2N3.

**neutral pH, 0.22 mg/mL of sodium fluoride (100 ppm fluoride ion) 1. Torell, P.; Ericsson, Y.: Int'l workshop on fl./dental caries red. (1974). 2. Ripa, L.W. JADA 102:477-481 (1981). 3. Birkeland, J.M.; Torell, P.: Caries Res. 12 (Suppl 1), 38-51 (1978). 4. Driscoll, W.S.; Swango, P.A., Horowitz, A.M.; Kingman, A. JADA 105:1010-1013 (1982). 5. Koulourides, T. Data on file Warner-Lambert Canada Inc. 1985.

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cautious solution. In this instance the NOT PROVEN decision was a perfect focus for the deliberate ambivalent nature of the editorial. I neither apologize for the theme of the editorial nor for the verdict.

The above comments will be made in the response to the letter of May 1, 1987 if you still wish that letter to be published.

I am familiar with the definitions of an editorial. However editorials in professional journals have a wider range of criteria.

John Hardie, BDS, MSc, FRCD(C)
Chief,
Dental Department
Ottawa Civic Hospital
Ottawa, Ontario

REASONS FOR STAND?

I am writing this letter to you with great concern for my profession. I am extremely upset at your narrow minded views, concerning the opposition of Capitation. You are obviously referring to the national campaign motto, "NO DENTISTS NO CAPITATION". The provincial bodies also support this stand, whole heartedly. Have you ever given any thought to the reasons for such a stand, other than financial? I somehow doubt it. As a fellow dentist, have you no respect for the sanctity of the profession and the excellent services we have provided the dental public, over the last several decades? Our profession has gained respect in the community over this time span. Why have we been so successful at improving dental health across the country and lowering dental disease? Why has dental awareness and appreciation increased dramatically? The answer, Dr. Hardie, is the relationship and trust, we as professionals, have generated over this time span, with our patients. It is the traditional mode of practice and this patient/dentist relationship that has preserved the integrity of dentistry.

Both committees that I sit on and myself personally, have spent countless hours of investigation and interpretation of capitation schemes which are circulating throughout Canada and the U.S. Certainly, gross revenues become predictable. Have you considered net profits in this statement? If a practice grossed thirty thousand dollars, via traditional fee-for-service delivery and the same practice had the predictable income of thirty thousand dollars via capitation, can you predict: 1. The expenses required to generate the latter thirty thousand dollars? 2. How much work must be done on patients, and how much labor is required by the dentist to perform these services? 3. How many patients will have to be treated to reach this predictable level of gross income? 4. What type of treatment will be carried out on these capitation patients? Can or will a dentist be able to perform the same treatments on these patients as with the traditional practice situation?

Let us look at the other aspects of traditional dentistry versus capitation dentistry. Let's put aside the finances, grosses and nets. It took me six years of education and a lot of hard work, to join a profession that allows self employment, ethical and professional administration by provincial and federal licensing bodies and the right to treat my patients on an individual and personal level. How will capitation change these sacred standards? Let me list a few examples of why we as practitioners might adopt "dental paranoia, self centredness and take an introverted approach" to this concept:

1. What are the ethical ramifications of a non dental entity overseeing one's office administration and personal patient files?

2. What are the ethical and professional ramifications of a non licensing body, possibly administering mediation and peer review, overriding our own associations.

3. Prior to the concept of capitation, every dentist was an independent practitioner, with all the freedom and rights of any private entrepreneur in business, today. In other words, we are our own boss, as long as we practise within the guidelines set out by our own professional associations. Capitation is changing this right. A for-profit, outside organization, may administer and regulate the way in which we practise dentistry, as free business people. We have the rights to administrate, treat and communicate, with our own patients, without a fourth party interfering and profiting.

4. How do we deal with networks of dentists, removing existing patients from practices, because capitation restricts the office to which they may go? It will create tremendous pressures, amongst dentists, in many urban areas and restrict our patients freedom of choice.

5. Do we want requirements and restrictions placed on us as to when, where and how we practise dentistry? What hours we practise, whether we can move offices, whether our offices are up to capitation scheme standards? When we are available, when and how long our holidays are, what plans we can or can not accept once a contract is signed? We have had no contracts to sign before. Why should we involve ourselves with contracts with business people, who are only interested in profits, not dental health? With capitation, the prediction is that the same number of dollars will be put out each year in dental premiums, but one more pocket will be filled before the dentist has his turn.

I have been working too hard and have become too involved with my profession, to allow your editorial comments to be put in "OUR NATIONAL JOURNAL", at this critical time in our professional lives, without expressing deep concern about the comments made. You are a dentist and an editor of your own profession's journal, and should therefore realize that there is far more involved with capitation than you have imagined.

Dr. Donald Gutkin
Winnipeg, Manitoba

DR. HARDIE'S REPLY

I share your concern for our profession. That is why I have been worried about the hyperbole, grandiloquent language, and emotion which the controversial issue of capitation has stimulated. Phrases such as "sacred standards", "cancer of the dental profession" and "challenge to the Canadian way" may sound noble and righteous, but in reality are often ineffective and prone to ridicule.

If you have read the Scientific American article referred to in the editorial, you will have appreciated that Dr. Light is ambivalent towards the commercialization of medicine. I chose to follow a similar theme in the editorial by deliberately neither supporting nor rejecting capitation. The editorial states that the effect – for better or worse – that capitation will have upon dentistry remains, as yet, unresolved.

You have chosen to interpret the editorial in a narrow, almost predictable manner. This is exemplified by your statement "expressing deep concern about the comments made". Unfortunately, this implies that you harbour doubts regarding the anti-capitation actions adopted by organized dentistry, that you do not wish your colleagues to discuss capitation, and that, in your opinion, dentists should not be united against capitation.

Many of the points which you raise in decrying capitation are valid and justified. Perhaps you will now appreciate that these should not be directed at me, but at those who promote capitation. Before so doing please ensure that your facts are correct. A thorough reading of the Journal will convince you that I am not the editor. Ms Carolyn Hackland has been performing this duty for a number of years.

John Hardie, BDS, MSc, FRCD(C)
Chief
Dental Department
Ottawa Civic Hospital
Ottawa, Ontario

Resource Centre de documentation

WOMEN IN DENTISTRY

LES FEMMES EN MÉDECINE DENTAIRE

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19. Whitehill-Grayson, I.T. *The dental specialist is a woman*. New York State Dental Journal, v. 49, no. 1, January 1983, p. 35.

One copy of the above articles is available at no charge from the library to all CDA members. Non-members will be charged $5. This bibliography was generated with the HELP of MEDLARS.

La bibliothèque de l'ADC offre gratuitement à ses membres et pour $5 aux non membres une copie des articles au-dessus. Cette bibliographie a été préparée avec l'aide de MEDLARS.

LIBRARY ACQUISITIONS

TITRES EN BIBLIOTHÈQUE

The following current acquisitions are available on loan from the Resource Centre/Library.

Les titres indiqués ci-dessous sont maintenant disponibles à la bibliothèque/centre de documentation de l'ADC.

1. Rateitschak, Klaus, H. and Rateitschak, Edith M. *Color Atlas of Periodontology*. New York: Georg Thieme, 1985. 321 p. 1 copy.

OBITUARIES/NÉCROLOGIES

DUNDASS, C.H.: Born in 1915, Dr. Dundass was a graduate of McGill University, Montreal, in 1943. He practised in the Magog, Québec, area. He was a Life Member of the CDA.

FINDLAY, JOHN: Born in Glasgow, Scotland, Dr. Findlay was a graduate of the Royal College of Physicians and Surgeons there in 1950. Emigrating to Canada, he received his DDS degree at the University of Toronto in 1960 and joined the full-time staff of Dalhousie University's dental school as Associate Professor of Periodontics. He maintained a perio. practice in Halifax. He was an active member of the CDA. He died in the spring in Bermuda.

HOUGH, C.G.: Born in 1906, Dr. Hough was a graduate of the University of Toronto in 1931. He practiced in Toronto. He was a Life Member of the CDA.

KAPLAN, IRA: Dr. Kaplan was born in 1912 and graduated from the University of Toronto's dental school in 1934. He practised in Toronto and was a Life Member of the CDA.

MONETTE, R.: Diplômé de l'Université de Montréal en 1956, le Dr Monette était membre actif de l'ADC et habitait Montréal au moment de son décès.

TARSHIS, M.A.: Dr. Tarshis was born in 1939 and practised in Scarborough, Ont. He was a graduate of the University of Toronto's dental faculty in 1964.

WACHNA, ELIAS: Dr. Wachna was born in 1907 and was a graduate of the University of Toronto in 1931. He practised in Toronto. He was a Life Member of the CDA.

ZIMMERMAN, MARK: Dr. Zimmerman was born in 1904, and graduated from the Royal College in Toronto in 1925. He maintained a practice in Toronto and was a Life Member of the CDA.

Book Reviews

PEDIATRIC DENTAL MEDICINE

Donald J. Forrester, Mark L. Wagner and James Fleming

Lea & Febiger, Philadelphia, PA
First Edition, pp. 692, 1981

This textbook is one of the recent Pediatric Dentistry texts which were published in the early 1980's. Prior to that, the choice of texts was limited to two or three. These appeared to set the unofficial standard for children's dentistry. The 'new' Pediatric Dentistry texts were a marked departure from the old 'stand-by's' which had served children's dentistry so well for many years. But, the old 'reliables' were in need of revisions, re-organization and up-dating. This text, as well as the others, attempted to fill the need for more current information and allow the reader a wider selection.

The authors and the contributors to the *Pediatric Dental Medicine* text selected one approach to fulfill this need by preparing what they considered to be a contemporary text. It was to consider various facets from the information which was available in the area of children's dentistry. This textbook was also conceived as an attempt to obviate the logistic problem of gaining access to the vast information compiled on children's dentistry. As stated in the preface, the text was intended to be used by the dental student, the graduate student, the general practitioner and the Pedodontist. According to Dr. Forrester, the goal of the text was to present the philosophy of comprehensive care in the treatment of the whole child.

To an extent that goal was achieved. The text presents a wide scope of information within the field of Pediatric Dentistry. It has thirty-nine chapters arranged in a logical, orderly fashion. The text begins with background information on oral diagnosis, growth and development, genetic diseases, and concepts on plaque and the periodontium. It progresses into actual patient contact, the concepts and techniques of prevention, restorative dentistry, minor oral surgery, appliance therapy, and pharmacology. The final chapters deal with the handicapped patient and hospital dentistry. The text ends with a philosophical discussion on the dentist's responsibility to society. There are many topics covered in this text, topics which should be covered in such a textbook on Pediatric Dentistry. The information contained within is as current as 1981, the date that it was being compiled for the textbook. Presently, it is in need of revisions and updating with more current information and trends.

Were the aims and objectives of the authors achieved?

The risks are high when so many readers with such a wide range of interests and requirements are targeted. The text covers the general scope of Pediatric Dentistry acceptably, however it doesn't address the individual nor the specific requirements of the diverse groups to whom it was directed. It does provide access to the vast information about children's dentistry, and it was contemporary in 1981. However when the attempt was made to cover the field so broadly, some detail had to be left out. It appears that it was at the expense of 'how-to-do-it' and in the detail of description of techniques. Generally, basic background information is adequately covered but there is a weakness in the general explanation of steps. The text in some cases presumes that the reader has the necessary background and is knowledgeable of the basics and only needs this text to augment understanding and knowledge on principles. This is especially true in the area of orthodontics. It lacks well defined sections on interceptive and preventive orthodontics especially as a logical sequence to the information presented on growth, development and analysis. Information is presented on appliances, however, one could not begin to use appliances based on the information presented due to lack of detail on fabrication, adjustment and precisely what the appliance is to accomplish.

The acid etch composite resin restorations, techniques and principles are not adequately covered within this text. This is a serious limitation to its use.

This hard-cover textbook is printed on high quality paper. The type is easily read and legible. The text is organized with bold print. The production quality of the textbook is of a high standard with excellent reproduction of illustrations and photographs. The contributing authors maintain the same style through the text and the chapters are written in a similar format adhering to the principles set forth. A feature of the textbook is the logical presentation of basic information supported by a good bibliography. The topics selected for the text are appropriate.

As far as reaching the readers to whom this textbook was directed, the graduate student would most likely benefit most from it and the bibliography at the end of each chapter. The dental student, the general practitioner and the Pediatric Dentistry Specialist would best be advised to investigate some of the other revised current Pediatric Dentistry texts if more up-to-date and specific information is required.

This book was reviewed by
Dr. Peter M. Pronych
Associate Professor
Division of Pediatric Dentistry
Dalhousie University

40 GREAT PRACTICE BUILDING CASE HISTORIES

Procom Inc. Professional Communications Inc.

Madison, Wisconsin
$29.95 (US)
40 pages

The editors of Procom's three newsletters for dentists, *Update, Dental Care Marketing* and *Patient Pleasers*, have, in this soft-covered book, assembled from their newsletters, what in their opinion, represents 40 of the best ''case histories'' of dentists' marketing ideas and activities. The objective of most of these marketing activities would appear to be to stimulate patient flow within the individual dental office.

Many of the scenarios involve to some extent external, media advertising which would be construed by Canadian provincial licensing bodies to be unethical and professional misconduct. Some of the ''case histories'' as described in the book would be construed by a Canadian dentist's peers to be conduct unbecoming a professional as they rely heavily on external advertising and excessive ''gimmickery''.

This reviewer has no difficulty with the concept of ethical, professional, internal marketing activities and, would suggest that some of the scenarios, as illustrated, would fit that criteria. Some of the scenarios could be modified so as to be acceptable to the Canadian profession, however some of the other scenarios could not. This book may serve the prudent reader as a stimulus to engage in marketing techniques with which he or she personally feels comfortable both professionally and ethically.

This book was reviewed by
Dr. Robert A. Brandon
Assistant Professor
Division of Community Dentistry
University of Western Ontario

REFERRALS AND RECALL: THE BEST WAYS TO GET NEW PATIENTS AND KEEP THEM COMING BACK

Procom Inc. Professional Communications Inc.

Madison, Wisconsin
$19.95 (US) 20 pages

It is generally accepted that the best source of new patients in a practice are a dentist's current, pleased and enthusiastic patients. An effective recall system is highly desirable in professional practice.

This soft covered book contains many excellent ideas on the subjects of stimulating patient referrals and management of the ''recall'' system.

Some of the methods mentioned for stimulating referrals would be considered to be professional misconduct in Canada. Most of the exceptions are, by Canadian standards acceptable and appear to be potentially effective and thought provoking. Many of the suggestions are designed to convey to the patients a genuine degree of caring on the part of both the dentist and auxilliary staff.

The ''recall'' effectiveness section includes ''22 Down to earth suggestions for increasing recall effectiveness''. Eight pages are devoted to tracking referral sources, specific suggestions for increasing patient referrals, and specific recall systems and techniques.

This report could serve as the basis for training new staff in these areas and upgrading the skills of existing staff.

Some of the suggestions do not fit the Canadian scene in terms of what would be considered to be ethical conduct. Overall, however in the opinion of this reviewer the book would be a worthwhile addition to the dentist's reference library.

This book was reviewed by
Dr. Robert A. Brandon
Assistant Professor
Division of Community Dentistry
University of Western Ontario

PROCOM'S 1986-1987 DENTAL COMPUTER GUIDE

Paul & Evelyn Thompson

Professional Communications Inc.
Madison, Wisconsin, 1986, 95 pages

This catalogue is structured into two major components. The most valuable part is the overview of the knowledge base and understanding of computers prior to the purchasing of equipment and the associated computer programs. However, the basic information on computers is better than the description of the format to be followed prior to purchasing.

The overview of the procedures to follow before making any purchases, is very thorough but emphasizes analytical steps that are required. For the novice, with or without this information, the evaluation of a computer system is very complex at best.

Most of the information in this catalogue is a listing of information that is provided by computer vendors. As a result, this material though not intended to be technical in nature, is not always that easily ''translated'' into non-computer terminology. This information would be better if it were more appropriately edited and structured in a format that would be more understandable for the individual who does not know much about computers and is utilizing this book for information and inferential decision making.

The information on the companies, system costs, and number of installations would be of particular interest to anyone considering the purchase of a computer system. Unfortunately, the information that is available is limited to vendors in the United States. This is important when one requires the Canadianized version of the programs to include the production of data based on Canadian procedure codes, various fee guides and the generation of standardized claim forms.

This book was reviewed by
Dr. Gordon W. Thompson
Dean
Faculty of Dentistry
University of Alberta

ENSEIGNEMENT D'ODONTOLOGIE CONSERVATRICE PRATIQUE ENDODONTIQUE: TOME 1

J.C. Hess

Maloine S.A. éditeur, Paris, 1983,
208 pages, 16 figures

Ouvrage intéressant où l'endodonte ne se limite plus strictement à la pulpe et la dentine, mais comprend aussi l'émail. C'est le vaste domaine de l'Endodontologie, dont la pratique clinique devient l'Endodontie; autour de cette science gravite tout l'Odontologie conservatrice (Dentisterie conservatrice).

L'ouvrage analysé fait partie d'une collection de huit tomes. Le tome 1 contient 208 pages, regroupées sous onze chapitres.

Bien qu'écrit en français, le texte présente plusieurs difficultés de lecture pour nous, nord-américains francophones, qui avons choisi d'utiliser la terminologie et la méthodologie de nos voisins des U.S.A. Nos collègues français ont choisi de s'en démarquer et l'auteur nous explique pourquoi, dans son introduction. Ceci étant, le tome 1 écrit par le professeur J.C. Hess, avec la collaboration importante de R. Vieillefosse présente de nombreuses qualités:

a) Bibliographie succinte mais pertinente
b) Effort de synthèse axé sur la prévention
c) Conception ambitieuse de l'Endodontologie
d) Ton humaniste
e) Présentation didactique: nombreux tableaux, encadrés, variation des caractères typographiques, schémas.

Par contre, l'ouvrage montre aussi des faiblesses:

a) Là où une simple énumération aurait suffi, beaucoup de développements nous semblent superflus concernant la radiologie, la pharmacologie, la dentisterie de restauration et la périodontie.
b) Le tome 1 (Diagnostic, Radiographie, Urgences, Pharmacologie) aurait intérêt à être fusionné au tome 2 (Anesthésie, Instrumentation, Techniques opératoires).
c) Nomenclature tout a fait différente de la nôtre en Amérique du Nord, au Canada francophone et au Québec, rendant la lecture du texte quelque peu hermétique notamment quant à l'identification et au classement des pathologies pulpaires, et de leurs complications.
d) Certains traitements d'urgence pour les pulpites et périodontites vont à l'encontre de ce qui s'enseigne en Amérique du Nord (pulpectomies à froid ou pansement arsenical, pâte de métronidazole).
e) Imposant volet sur la pharmacologie (5 chapitres), où on fait une mise en garde exagérée contre l'emploi des vasoconstricteurs. On y favorise les anti-inflammatoires et l'arsenic. On recommande les coiffages, les pâtes et les antibiotiques pour usage canalaire. On parle peu des prescriptions de ceux-ci pour usage général, ni de débridement et mise en forme (parage et élargissement). On cherche, au maximum, à *conserver* la pulpe, ne craignant pas, au besoin, l'usage des corticoïdes anti-inflammatoires.

Ce premier tome d'une série de huit s'inscrit dans une tentative de synthèse, où la science de l'Endodontie (l'Endodontologie) devient en quelque sorte le centre de gravité de toute la Dentisterie conservatrice. Le débutant qui s'initie à l'Endodontie risque de s'y perdre; par contre celui qui est déjà familiarisé avec cette discipline lira avec intérêt cet ouvrage scientifique qui nous expose si bien une conception toute française de l'Endodontie, malgré que celle-ci soit en quelque sorte une anti-thèse de notre philosophie clinique, moins *''conservatrice''*.

Marc-André Morand
Responsable
Département Endodontie
Université Laval

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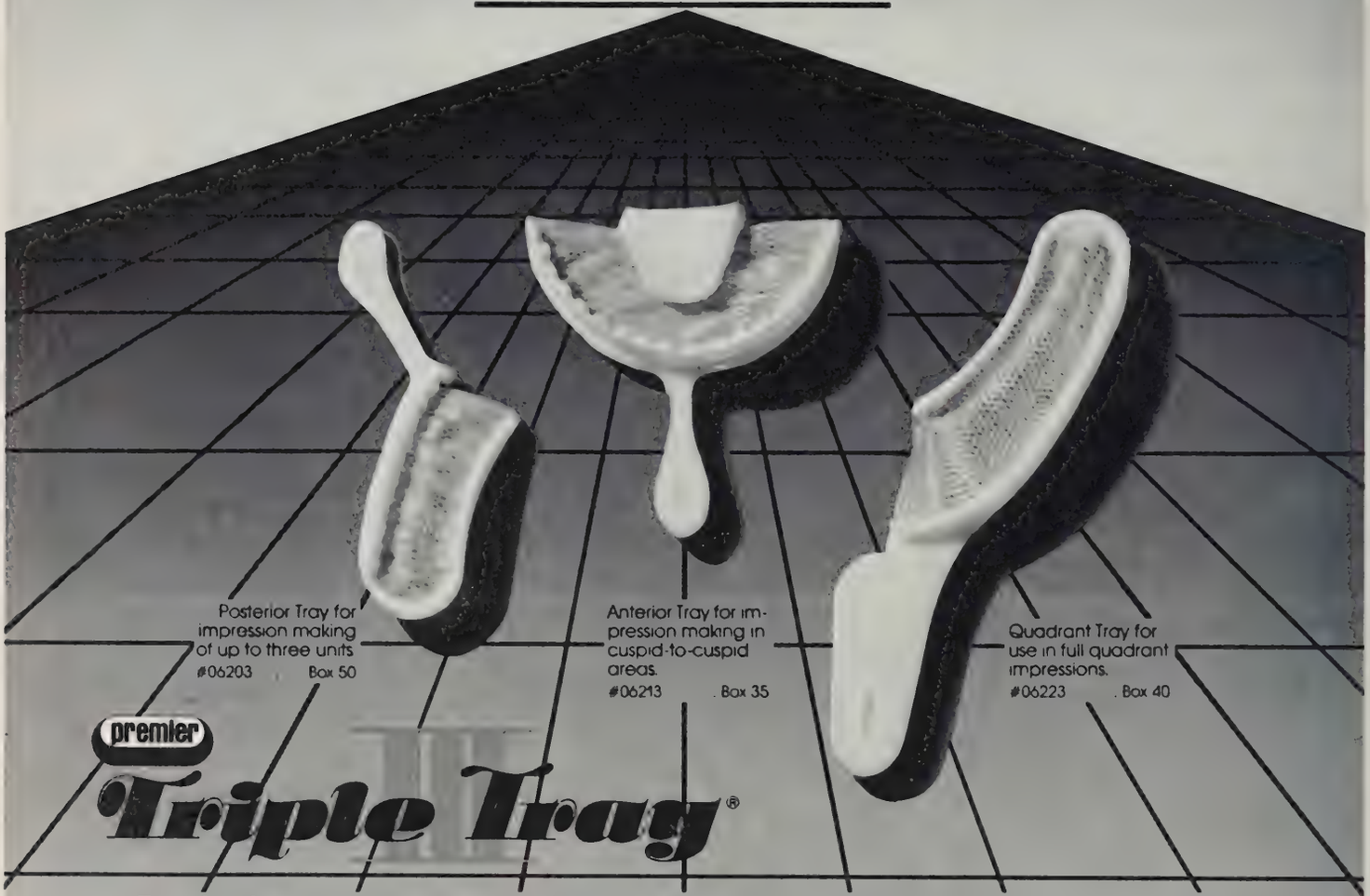

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MANAGEMENT OF THE PERIODONTAL ABSCESS

Eugene Kryshtalskyj, DDS, Dip Perio, MSc, FRCD(C)
Toronto

This feature is based upon a Table Clinic presented in Toronto.

"A periodontal abscess is a localized purulent inflammation in the periodontal tissues."[1] It represents a focus or foci of increased periodontal destruction which, if left untreated, will result in tooth loss and spread of infection to adjacent tissues, particularly in the acute form.

The symptoms of an acute periodontal abscess include:
1) throbbing, radiating pain
2) tenderness of the gingiva to palpation, and pus formation
3) sensitivity of the tooth to percussion
4) increased tooth hypermobility
5) systemic effects, in some instances.

The latter usually consist of a combination of lymphadenitis, fever, chills and malaise. Only under these circumstances are antibiotics necessary.

A chronic abscess (**Fig. 1**) can be asymptomatic and characterized by:
1) a dull aching pain
2) slight elevation of the tooth
3) a fistula communication through the sulcus or gingival mucosa.

The chronic abscess often undergoes acute exacerbations characteristic of an acute abscess as above.

Etiology

The periodontal abscess is usually caused by an acute inflammation within a preexisting chronic periodontitis. Occasionally, calculus build-up, food impaction or localized traumatic episodes can stimulate the process. The morphogenic and bacteriologic properties of the lesion are incompletely understood; however, important factors in the pathogenesis include a shift in the subgingival microflora and decreased host resistance. In fact, if a patient presents with multiple periodontal abscesses, investigations are indicated to rule out systemic problems such as blood dyscrasias (agranulocytosis, cyclic neutropenia, etc.) or hormone imbalance (including diabetes).

Bacteriology and Antimicrobial Considerations

Complex interactions are known to exist between the host and certain bacteria within the pathogenesis of periodontal diseases. In general, the bacteria associated with periodontal health are predominantly gram-positive, aerobic, saccharolytic and nonmotile. Rapidly progressive periodontal lesions are predominantly caused by asaccharolytic, gram-negative, anaerobic, motile organisms.[2,3] These organisms appear to be involved in the propagation of most pyogenic infections of the head and neck region, especially in the oral cavity.[4,5] Utilizing anaerobic techniques to sample the apical extent of periodontal abscesses, Newman and Sims[6] found the bacteria to be gram-negative (66.2 per cent) and anaerobic (65.6 per cent). Also, it is definite that microbial penetration of soft tissues occurs in the acute stage of the periodontal abscess.[7]

The penicillins are effective against most of these bacterial groups and are the drug of choice when antibiotic therapy is indicated.[8-10] Penicillin is effective against many gram-negative organisms associated with the periodontal abscess,[10] and in view of its special value in serious infections, it should be selected on the basis of clearly established need against penicillin-sensitive organisms. Ideally, culture and sensitivity tests should be performed in all cases. Other useful antibiotics include metronidazole (selective for anaerobes and diffuses into abscess cavities), and clindamycin (effective against most anaerobic, gram-positive organisms and several gram-negative organisms). Metronidazole does have an "antabuse" effect and patients should be cautioned against consuming alcohol. Patients receiving clindamycin should be repeatedly checked for the possible development of pseudomembranous colitis. Erythromycin may only be marginally effec-

tive in the suppression or elimination of periodontopathic microorganisms,[9,10] and spiramycin itself exerts a minimal influence on gram-negative organisms.[9] The tetracyclines are better used for the more chronic forms of periodontitis.[9,10]

Diagnosis

The diagnosis requires a correlation of the patient's history, clinical and radiographic examination. Periodontal probing reveals communication of the lesion with the gingival margin. A purulent discharge may be prominent (**Fig. 1**) and the radiographic projection of the region will usually demonstrate significant alveolar bone loss (**Figs. 1b** and **2b**). Care is required to identify any endodontic involvement with the associated teeth, as can occur with combined, periodontic-endodontic lesions. A gutta-percha cone radiograph will reveal whether the bone loss extends to the root apex. If so, then definite management of the lesion would include root canal therapy.

Treatment Sequence

I. Immediate Emergency Treatment

1) Incision and drainage: When the periodontal abscess demonstrates a fluctuation or clinical pointing appearance, an incision into the area to drain the purulent contents should be performed. If the abscess situation is more diffuse, then vigorous curettage would provide a greater benefit. The incision can be instituted through a sulcular access with a curette or scalpel blade, once adequate local anesthesia is achieved. Care should be taken not to infiltrate into the lesion, in which case spread of infection can occur.

2) Lightly adjust the occlusion on the tooth if it is extruded, in order to minimize strong contacts in centric relation and lateral excursions. These contacts or interferences will delay healing and prolong discomfort.

3) Antibiotic therapy (only if systemic symptoms are apparent). Penicillin-V 600 mg followed by 300 mg q.i.d. for 7-10 days. Alternative antibiotic: Metronidazole is effective in the treatment of acute pericoronitis (a different form of periodontal abscess) in a dose of 250 mg t.i.d. If used, the patient should be advised against alcohol consumption with this drug, due to the "antabuse" side effect.

4) Arrange for a bacterial culture and sensitivity test (swab or aspirate) in severe cases, to ensure that the appropriate antibiotic has been chosen.

5) Advise the patient to rinse with warm salt water every two hours and to return in two days to check the healing. If a "T" drain was placed at the initial appointment, it may

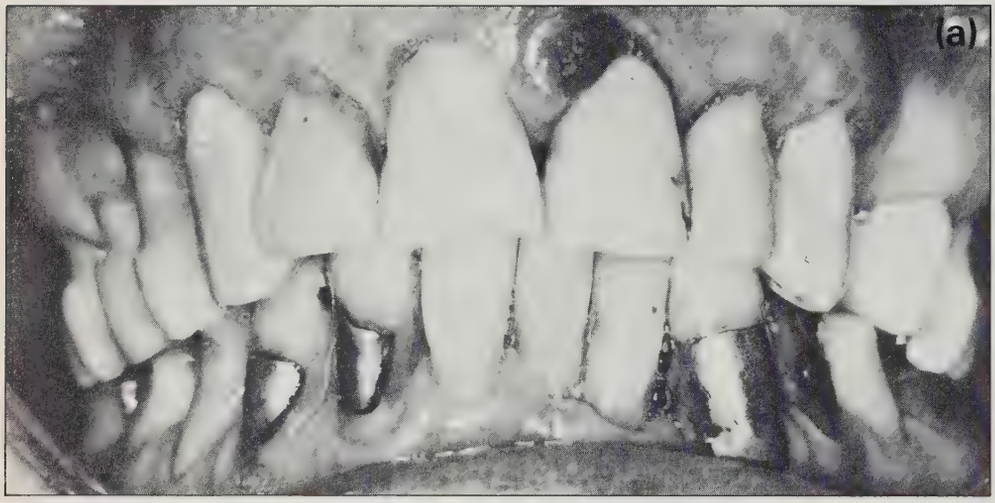

Fig. 1. The chronic periodontal abscess: 1(a) pretreatment appearance, 1(b) radiographic appearance, and 1(c) one month after curettage therapy.

now be removed. Significant improvement should be noted by this time. Unfortunately, we cannot depend on mouthrinses alone to completely irrigate the abscessed area subgingivally, since this method of delivery of antibacterial substances does not penetrate effectively into the gingival pocket.[11]

II. Long-term Treatment Considerations

Once the lesion is controlled, a decision should be reached whether to extract the tooth (if it carries a hopeless prognosis) or to proceed with definitive surgical therapy. Definitive therapy would eliminate the periodontal pockets or treat furcation involvements in order to remove the niche into which bacteria can recolonize and recreate an abscess in the future. The teeth requiring definitive therapy must carry a favourable prognosis as dictated by tooth mobility, manageable osseous defects, adequate remaining bone, treatable furcation involvement, etc. At this time, the acute situation should be under control.

CASE EXAMPLES

Case 1

Figures 1a, **1b** and **1c** demonstrate a chronic periodontal abscess situation. The patient had repeated episodes of swelling in the interdental papilla between the central incisors. No antibiotic therapy was given as there were no associated systemic symptoms. Under local anesthesia, the granulation tissue was curetted completely from within the lesion and a dressing was placed in a manner that also permitted drainage. Incision and drainage was not performed as there was no fluctuation or focal point of infection. The dressing was removed in one week and healing was complete within one month of treatment (**Fig. 1c**). The radiograph demonstrated marked interproximal bone loss, but the mobility of the two central incisors improved significantly after the lesion resolved. The oral hygiene regimen included interdental proxybrushing to facilitate healing. When a chronic abscess is more advanced, some clinicians advocate immediate definitive therapy including a flap approach,[12] especially in the post-prophylaxis periodontal abscess situation.

Case 2

This patient had symptoms of fever, chills and large swollen submandibular lymph nodes on the right side. Intraorally, a large abscess was noted, primarily around teeth 46 and 47 (**Figs. 2a, 2b**). Radiographically, tooth 48 also presented with a periodontic-endodontic communication. Immediate emergency treatment was instituted, including drainage, occlusal adjustment and antimicrobial therapy (penicillin). The

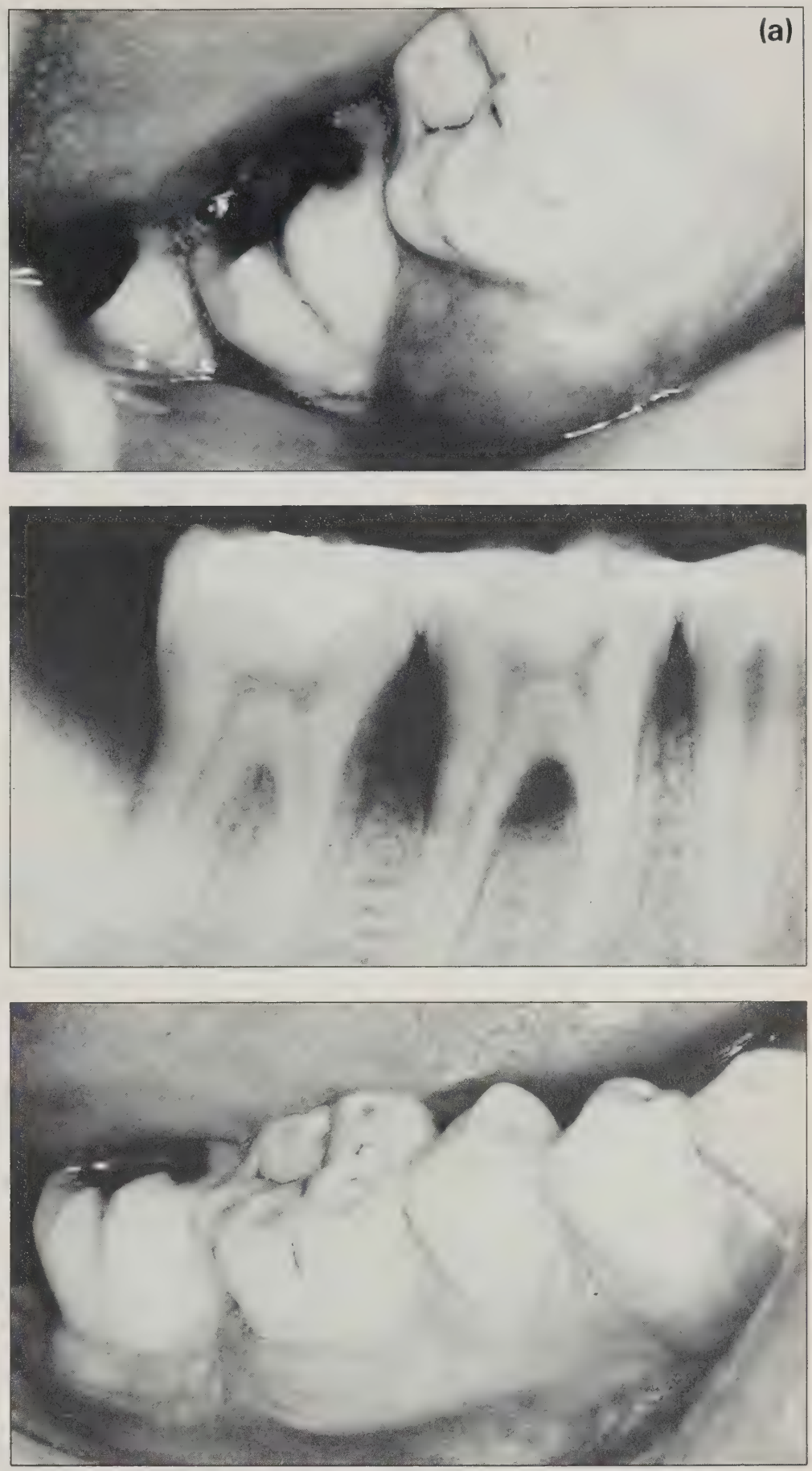

Fig. 2. A severe acute periodontal abscess with systemic symptoms. 2(a) demonstrating buccal swelling encroaching upon the fascial planes; 2(b) pre-surgical radiograph of region after tooth 48 was removed, and occlusion stabilized with intracoronal splinting. Advanced periodontal pocketing and furcation involvement were prominent; however, the acute symptoms had resolved at this stage; 2(c) two-month postsurgical view, demonstrating complete resolution of the abscess condition and restoration of a healthy periodontium.

patient was examined every 2-3 days. Significant resolution of the abscess occurred in one week, at which time the hopeless tooth 48 was extracted. Three weeks later, definitive periodontal therapy was provided for the remaining molars in order to treat the furcation involvement associated with teeth 46 and 47, superimposed on advanced periodontal pocketing and subgingival bleeding. This consisted of intracoronal periodontal splinting of tooth 46 to stabilize the occlusion in the quadrant and flap surgery. Two months later, after periodontal surgery, the area was completely free from infection (**Fig. 2c**) and carried an excellent periodontal prognosis.

Summary

The acute periodontal abscess requires immediate attention in order to control the spread of infection to adjacent tissues. The earlier immediate emergency treatment is instituted, the better the prognosis for the associated teeth. In some situations, definitive periodontal therapy may be required as a future consideration; however, acute infection control takes priority initially. When systemic symptoms are present, then – and only then – should antibiotics be prescribed. Once treatment is initiated, the patient should be monitored periodically until the systemic symptoms (if any) subside. If an antibiotic is required, the drug of choice is penicillin, unless culture and sensitivity tests point to use of a different antibiotic.

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PHOTOGRAPHY
AN EYE TO BETTER PRACTICE

R. Goodlin, DDS
Aurora, Ontario

This feature is based upon a Table Clinic presented in Toronto.

ABSTRACT

Clinical photography is becoming recognized as a valuable tool for use in the routine practice of dentistry. The different uses of photography in the dental practice will be discussed under the topic headings of patient records, marketing, education and miscellaneous ideas. Practical suggestions and tips are provided as to how to use the camera in a clinical setting to maximum advantage with a minimum of effort.

SOMMAIRE

On reconnaît de plus en plus la photographie clinique comme un outil précieux dans l'exercice quotidien de la médecine dentaire. Dans cet article, l'usage de la photographie au cabinet est considéré pour les dossiers des patients, le marketing, l'éducation et d'autres idées. De plus, on offre des conseils et des suggestions touchant l'usage de l'appareil-photo pour en tirer le meilleur profit avec un minimum d'effort.

Photography opens the door to the world of excellence in dental practice. A wide range of ideas is presented in this article, each of which can be capitalized upon to stimulate both the patient's and dentist's awareness, motivation and interest. Each of these ideas can be instituted into any type of practice with a minimal amount of effort and a maximum amount of gain.

The use of a standard series of eight photographs for each patient gives the practitioner all of the benefits we will discuss under the heading of Patient Records. These eight clinical photographs consist of an anterior view, right and left lateral views, two occlusal views and three extra-oral views, including a "smile" view and frontal and profile views of the head and neck. All of these photographs must be taken in a standardized fashion to allow direct comparison between different patients, as well as direct comparison of the same patient over different time frames.

A. PATIENT RECORDS

1. Diagnosis and Treatment Planning

The condition of the patient's oral health is easily forgotten a few days or even hours after the initial examination. When preparing the treatment plan for any case, complete diagnostic records are required – models, radiographs, medical history and charting, as well as the specific orthodontic, periodontic and TMJ evaluations. Total recall is required to make a proper diagnosis and prepare a thorough and complete treatment plan. Photographs supplement the normally accepted diagnostic records and provide the practitioner with instant recall – almost as good as having the patient there beside him.[1-4]

Anterior views allow us to check for soft tissue pathology, caries, the condition of the gingivae, enamel defects and esthetic considerations (**Fig. 1**). The lateral views show everything mentioned above, plus allow for further occlusal analysis (**Fig. 2**). The occlusal views provide greater areas of soft tissue examination and screening, and indicate the condition of the present restorations and are a means to check and compare the actual clinical view with the radiographs and charts (**Fig. 3**). The extra-oral views show facial pathology, orthodontic and esthetic considerations. The "smile" view reveals the position of the lip-line as well as providing valuable insight into the need for cosmetic dentistry.

2. Malpractice Protection

The greatest cause of malpractice loss is due to inadequate patient records. Absolutely everything occurring in the office must be recorded. Excellence and thorough case histories are absolutely essential[5,6] and the supplementation of patient records with clinical photographs can make the difference between celebration and disaster.

As evidence in medico-legal cases involving malpractice, photographs will provide direct proof as to the condition of the mouth prior to, during and after treatment. The best malpractice insurance available is strong evidence supporting your claims, and excellence in record-keeping is the key.

3. Medico-Legal Situations

When called upon to submit a medico-legal report for insurance, legal or accident cases, clinical photographs to supplement a detailed and accurate report are an invaluable aid to all parties concerned. These photographs must clearly show the severity and extent of the injuries sustained, with proper descriptions to help those concerned who, we must assume, have limited knowledge of dentistry.

If the patient has been seen in the practice prior to the accident, the original clinical photographs taken at the first appointment, or the most recent photographs available, will demonstrate the condition of the mouth before the accident.

4. Patient Consultations

The purpose of the consultation appointment is to present the patient with the condition of his or her mouth, and to recommend a treatment plan. The informed patient is much better able to make a decision as to the type of treatment desired. Of course, the patient must be told of the different treatment possibilities and the cost of such therapy.

It is difficult, if not impossible, for the patient to truly understand a verbal explanation of the dental situation. Photographs are worth a million words and allow the patient to be part of the decision-making process with minimal chance of subsequent

Fig. 1. Anterior view.

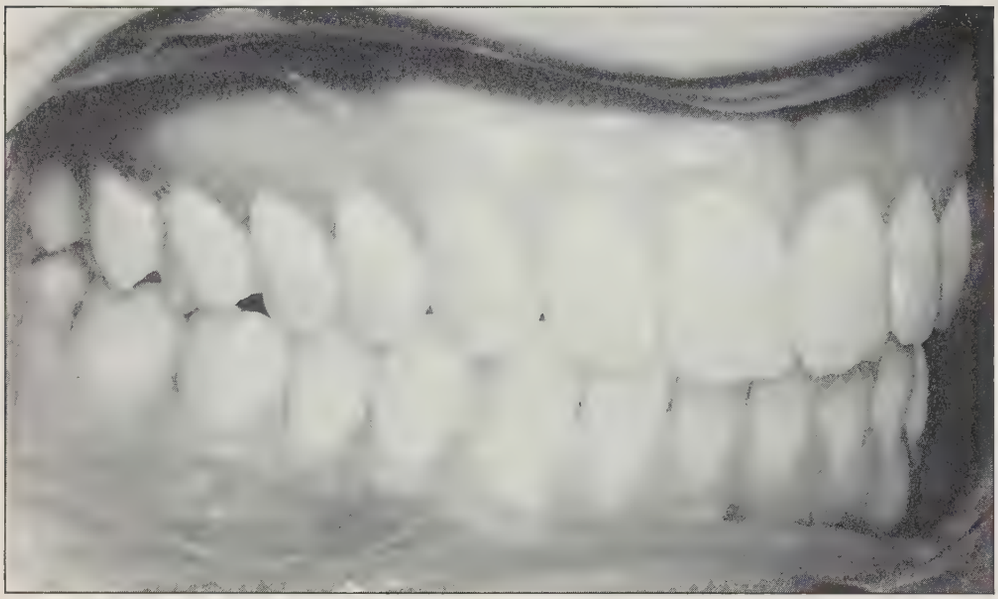

Fig. 2. Lateral view.

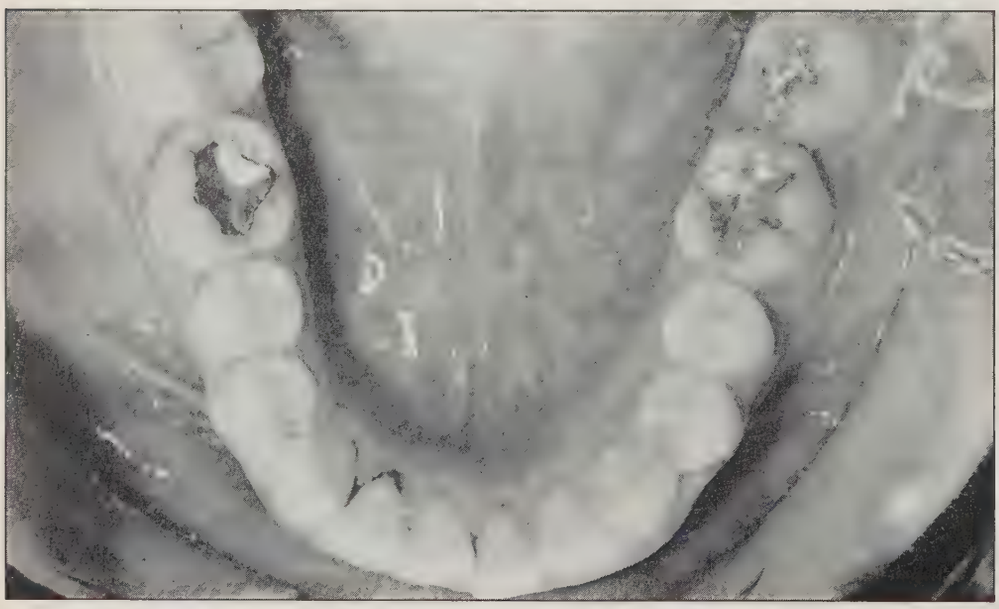

Fig. 3. Occlusal view.

problems due to patient acceptance of treatment.

There is a fine line between professional counselling and salesmanship, and the practitioner who is able to make the patient understand his/her condition will have a higher rate of treatment plan acceptance. This type of consultation allows the practitioner to involve the patient, resulting in more success than if he presents the case in a dull, matter-of-fact, "you need this" type of consultation.

The better the preparation before the consultation, the better the result. One can provide a simple slide show with a mini viewer at chairside, or be elaborate in the presentation by using a specially designed room with audiovisual equipment on hand. The presentation must fit not only the patient but the practitioner and the type of practice.

5. Insurance Confirmation

In complicated treatment cases or situations where a patient's insurance company requests additional information to justify a claim, it is easier to send clinical photographs showing the area in question for the company's consultant to view. This eradicates needless and time-consuming correspondence.[7]

6. Biopsy

A photograph accompanying the specimen for biopsy will greatly enhance the ability of the pathologist to make an informed diagnosis as to the characteristics of the lesion. The views taken should depict the character and anatomical position of the lesion before it has been biopsied.

7. Before and After

The completion of records with before-and-after clinical photographs of difficult or interesting cases, full mouth reconstructions or other extensive cases, will supplement the records and can be used later for educational, marketing or medico-legal purposes.[8]

8. Laboratory Communications

When describing a situation to the laboratory technician, it is easier to send a clinical photograph, allowing the lab to fully understand the particular problems being faced clinically. This type of supplementation of detailed notes is an excellent way of producing superior quality dentistry.[8] The personnel involved in the lab appreciate a couple of before-and-after clinical photographs of the work collaborated upon by you and the lab.

9. Instant Photo on Chart

In a very busy practice with more than one dentist, it can be difficult and often embarrassing to both patient and assistant not to know who the patients are. By placing

instant pictures of your patients on the chart, it is easy to recognize them in a crowded waiting room and creates a warm feeling when the assistant walks directly to them and asks "How are you Mrs. Jones? It's nice to see you, won't you please come this way, we are ready for you now." This small photograph is part of the patient's record, and importantly, it and the other records are used to their greatest advantage in marketing the practice.

B. MARKETING IDEAS

1. No-Cavity Club

Using a bulletin board in our waiting room, photographs are mounted of all the children who have not had cavities at their latest check-up. A Polaroid instant camera is used so that they can see their picture immediately. The children absolutely love it and take great pride in helping to put their pictures up on the board. Motivation towards better dental health may be the result for the short term, but this marketing strategy pays off. At the following check-up, the old picture comes down and the child can take it home. It never ceases to amaze me how many referrals we get because some other parent has seen an old "no cavity" club photo while talking to their neighbour's children.

2. Patient Newsletters

Many practices already send monthly or quarterly newsletters to parents, keeping them informed of new happenings within dentistry and in their offices. A great manner in which to personalize your newsletter is to include a few black and white photographs of yourself, your staff and their families. This makes the patients feel as if they know you so much better and helps give the staff-patient relationship a much friendlier tone. The patients have something more to talk about and they are kept involved in your practice during those long periods between appointments.[9]

3. Office Contests

Photography is a hobby enjoyed by millions of people who love to display their photographs. How often have we all sat through a three-hour presentation of Joe and Mary's trip to Bermuda? Giving these people a chance to display their photos will give them an added interest in your practice and will get them talking to friends about you and the contest, and these people often ask their friends to go to the office to have a look at their photographs.[10]

The contest should be open to all patients and organized into categories. Mount the photographs in the waiting room and display them for a few weeks. Try to elicit the help of a person well known in the community to judge the contest – the major, a representative of local or federal government, the high-school principal, the newspaper editor, etc. Award prizes for the best photographs and see if you can arrange publication of the photos in the local newspaper. Prizes can range from t-shirts to water-pik appliances.

The categories you choose can include: nature, sports, people, places, funniest picture, cutest baby, most dramatic, best sunset, best smile, etc.

4. New Patient Letter

Many dentists will send a letter to new patients, discussing their office policies and welcoming the patient to the practice. It is very helpful to include a photograph of yourself and your staff with the letter, so that the patient can place a face to the voice over the telephone. It also helps them know what to expect when they first arrive to see you. Another good idea directed at children is to have the assistant take a photograph of you with the child. Then send the photo to the patient along with a letter of congratulations on how well they did on their first visit.

5. Patient of the Month Club

This is a variation of the "No-Cavity Club", where photographs of children who did remarkably well under trying circumstances can be displayed; or "The Patient of the Month" can be prominently displayed in the office waiting room. This little marketing ploy often makes even the worst appointment "all better".

Another way of using "The Patient of the Month Club", is to feature a prominent patient in your practice, and the community. This gives the featured patient a sense of pride and accomplishment as well as showing off to your other patients the fact that you treat influential members of the community.

6. Photographic Displays

As a professional photographer as well as a dentist, it is understandable that my office is decorated with some of my favorite photographs taken over the years. It gives my patients a sense of what I am "all about". After all, I'm not strictly interested in teeth. The office feels like home to me and the photographs can often be a good bridge to conversation with a new patient who may be nervous or apprenhensive.

7. Gifts and Greeting Cards

A beautiful photograph makes a wonderful personal gift to a patient, friend or member of the family. Similarly, greeting cards can be made, using a photograph of the family or your staff, to send to patients, friends and family on holidays or special occasions.[11]

C. EDUCATION

1. Professional Education

Lectures – Throughout our professional education, we sat through many hours of lectures solely based on slide presentations and other audiovisual means of demonstrating the required information. It is easy and effective, accepted and expected, that slide shows be the norm of teaching. As of late, video tapes have started to take over in dental schools across North America; however the slide show remains the mainstay of dental education.

Study Clubs – Slide shows lend themselves to viewing by various sized audiences, and so this medium is ideal for continuing education and demonstration purposes for study clubs, peer groups, etc. Slides are an easy and effective method of communicating your ideas in a professional and effective manner.

Conferring Cases – When a difficult case arises, it is a simple task to take records, including clinical photographs of the case, to a colleague for discussion. This may result in new ideas for treatment and better service to the patient.

2. Patient Education

Oral Hygiene Instruction

Whether the instruction is given chairside using photographic prints in a booklet designed by the staff specifically for that purpose or in a more formal slide presentation in the oral hygiene instruction room, photography will help the patient learn the material better. The more plentiful the visual aids and the more interesting the presentation, the better the attention of the patient and the greater the benefit.

Candy will get better results than medicine. A fun and interesting, yet professional, approach is the best manner of delivery, never forcing the presentation on anyone. Keep it short and simple enough so that everyone can understand, yet detailed enough to include all the pertinent information.

Before and After Atlas

A small photograph album with before and after photos of different situations in dentistry provides the means to informally discuss the possible treatments, without seeming to push. After these reluctant patients see what can be done, they are often most receptive to further discussion of the possibilities.[11]

Procedures Book

One of the greatest photographic investments one can make in a dental practice is the procedures book. This is a small album with photographs of situations covering the basic treatments in dentistry: the root canal,

the bridge, the crown, the partial denture, cosmetic bonding, pit and fissure sealants, just to name a few.

These photographs are shown to apprehensive patients so that they know exactly what to expect during the procedure and will help them understand what is happening and the purpose of each step of the procedure. This helps to put the patients at ease; they now know what will happen. Patients deserve to know what is happening to them.

3. Staff Education

Office Manual

The office manual is designed to provide new staff members with detailed instruction on the procedures and duties of each staff member in the office. Photographs can be used to familiarize the new member with the manner in which procedures are carried out, the materials used and how they are used. Many office manuals fall well short of the ideal, often because it is very difficult to take the time to write out the procedures in detailed long form. A proverb indicates that "a picture is worth a thousand words", and a few photographs in the correct place in the manual will say it all.

Tray set-up

Office procedures can often be difficult and when many different procedures are carried out within a practice, it is helpful to arrange the instrumentation on trays according to procedure. For new office personnel, it is impossible to remember what instruments belong where, and in what order. To facilitate this type of system, photographs can be taken of each tray set-up and then placed in the make-ready room for easy reference.[11] This will eliminate mistakes which can lead to frustration later at chairside.

Drawer Contents

Similar to tray set-up photographs, it is easy to photograph the contents of specific drawers in order to ensure proper organization and stocking by your staff.

D. MISCELLANEOUS IDEAS

1. Peer Review and Self Examination

Viewing your own work close up with photographs clearly shows areas in which the work may be lacking. This method of examining your own work and assessing it in a critical manner will enable you to correct areas where it may be improved. Critical assessment of these photos by your colleagues will again point out areas where improvement can be achieved.[12]

2. Office and Home Contents Insurance

In case of fire or theft, it is wise to have photographs of each room in the practice. This provides the insurance adjustors with a complete guide to equipment, furnishings and cabinetry, and helps the practitioner to itemize the damage. Every practice and every home should have each room photographed from at least two or three different angles. In the dental office especially, contents of each cupboard and drawer should be photographed and catalogued to provide the practitioner with a foolproof inventory.

Conclusion

Photographs are an invaluable aid in record-keeping and treatment planning, as well as providing numerous ways to increase practice potential and quality through marketing, better communication between the practitioner and patient, as well as self examination by the practitioner.

The quest for excellence is never ending. As soon as one stops searching for better ways to practice, the quality will surely suffer. Photography is not new to dentistry; its applications are limited only by the imagination of the practitioner, and the use of photographs is rapidly becoming one of the most widespread methods of supplementing record-keeping in dental practice. The camera is certainly providing us with an eye to a better practice.

Dr. Goodlin has a general dental practice in Aurora, Ontario, and is a graduate of the New York Institute of Photography.

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THE DENTIST'S RESPONSIBILITIES

Louis J. Rosen, DDS
Montréal

Editor's note:
An editorial in this Journal by Dr. John Hardie: "A Moral and Dental Dilemma", recalled for Dr. Rosen, 87, a retired endodontist and former assistant professor at McGill, his Alma Mater, a paper he delivered in 1961, in which he foresaw the situation as identified by Dr. Hardie in JCDA Vol. 53: No. 1 p. 5. Dr. Rosen's paper was delivered at a symposium on Office Management, Practice and Professional Procedures, Mount Royal Dental Society, on Tuesday, December 12, 1961.

INTRODUCTION

Before touching upon this subject proper, a few words on practice administration may be in order.

Until recent years, the dental profession maintained a highly conservative attitude toward office procedures other than those that dealt directly with dental treatment services. Lectures, special courses and published articles on dental office and business practices were frowned upon and dentists who spoke too openly about these subjects were criticized for promoting unethical ideas. It was often repeated by the more ethical dentists that we were not in a business and our first and perhaps only concern was the patient's welfare, and compensation for these services were only secondary and must not even be discussed aloud. This was ethics! To-day, a large segment of our profession has thrown off the old restraints with regards to the training of dentists in business administration.

Within the last quarter century, the pendulum has swung to a new position, one

Louis J. Rosen

that is far removed from the rigid code of ultraconservatism. In fact many of us have the conviction that the pendulum has swung too far. Those who would criticize the current trend, should point out, however, that much good has been achieved along with the bad. There is no doubt that most dental offices are being managed much more efficiently than in the past, but many thoughtful dentists feel that some of the office procedures now being used may prove harmful to the growth of dentistry as a profession and as a health service. There is also a growing concern about the lowering of the esteem of the public toward the dental profession, when excessive emphasis is placed on "selling" high fee mouth rehabilitation, when the commodity, offered to the patient is "glittering jewellery shop restorations instead of a valuable health service, when the dental practice takes on the appearance of a high-pressure commercial enterprise instead of a dignified well organized and scientific health service. All this is not meant to imply that the dental profession should not concern itself with dental office and dental practice administration. The fact is that this area of the dentist's work and responsibilities needs more attention than it receives, but the time has come when the dental profession needs to re-examine and re-evaluate the direction in which it is heading.

The Dentist's Responsibilities

To-day's changing socio-economic conditions present major responsibilities and dentistry, in order to continue advancing, must recognize and assume its responsibilities and problems as they present themselves. The dentist has responsibilities to his patients, his colleagues and his community as a citizen, to his teammates, the dental schools, dental laboratories, dental tradesmen, dental assistant, his professional and inter-professional organizations and finally to his family and himself.

To His Patients

In considering our responsibilities to our patients, we must first of all realize they are human beings, and not cases. Many schools emphasize that while scientific knowledge is of paramount importance, the full measure of success cannot be attained until the

human factor is given due consideration. Human factors must be considered in creating and maintaining mutual confidence and cordial relations between our patients and ourselves. It has been said and I quote "We cannot treat anyone as less human than ourselves without becoming less than human, ourselves."

In order to succeed, the dentist must not only serve his patients conscientiously, but also achieve a proper balance among the real long-term interests of his employees, his family, his colleagues and the entire community of which he is an integral part. In recognizing and assuming our responsibilities to our patients, it is important that we make a self-analysis, and delve deeply into our conscience and ask ourselves about our own competence and our generous appreciation of others. We must recognize the fact that the only enduring practice is the one built on faith and confidence with full realization that when an individual retains us to render necessary service, that individual is acting in good faith, faith in the profession, faith in the service, faith in the organization behind the dentist and faith in the dentist selected.

We must realize that confidence cannot be sold – it must be earned and that gaining confidence of a patient must be done by degrees. The dentist must face the unpleasant thought that his services are not looked upon with pleasure. Although patients may fully realize the importance of good dental health, they do not come to the office with joyful anticipation and at times they come only for relief of pain (another extremely important responsibility of the dentist is to provide time for emergency cases.) The dentist should assume his responsibility in determining what is practical and right for the best interests of his patients. He should be certain to listen to his patient's story first and thereby gain knowledge of probable or fixed ideas arising from previous dental experiences. It is the dentist's responsibility to praise good work of his colleagues at every opportunity; by so doing he gains the esteem of his patients and colleagues and he enhances the standing of his profession. The new patient especially will appreciate praise of good work done by a former dentist and your recognition of good work indicates that you will probably do good work yourself.

Patients are known to travel from dentist to dentist. When the work in a patient's mouth does not meet up with your standard of dental attention, it is best not to say anything about it. Remember that the patient has come to you for service. It is your duty to help the patient. In such cases, proceed to correct anything that you feel could stand correction. When tempted to criticize, it is well for the dentist to look in the mirror twice before looking in some other direction. Here again we must consider the human factor. We do not know the circumstances under which the previous work was done, nor are we acquainted with the factors involved. Our role is simply – get to work and make the patient comfortable and happy. The dentist should accentuate the positive at all times and treat his patients exactly as he would like to be treated if the positions were reversed. The dentist should urge patients to be punctual in keeping appointments, stressing the fact that the time is reserved for them alone. And the dentist should be as punctual as he expects his patients to be. The dentist must manifest a true spirit of understanding and a sincere desire to sympathize with, and familiarize himself with each patient's characteristics, because no two patients are alike. When we have mastered the consideration of the human element, we will have achieved our goal of preventing the fear and apprehension which are too often associated with a visit to the dentist. Patients present their needs for the safeguarding and improvement of health, comfort and appearance. We, as dentists, should make the greatest appeal to these motives. Patient confidence is engendered by a lot of little things – a timely word, an encouraging smile and a competent manner on the part of the dentist. It is our responsibility to remember the four requisites to successful careers – courtesy – tolerance – kindness and the smile.

To His Colleagues

The greatest honour that can come to any dentist is to be held in high regard by the members of his own profession. One of the most important means of creating and maintaining a pleasant and compatible relationship, is to eliminate completely the word competitor. Competition is defined as a contest between rivals, a match or trial between contestants. We do not need to be reminded that dentists are still members of a great profession. We must behave like brothers, before we can understand the profound significance of brotherhood. Again, let us abolish completely hatred and dissension. It must be individually accomplished, before it can be universally experienced. Many times we worry about practices, but I believe that when you can shake hands with your colleagues and mean it, when you can work hard in your profession and love it, when you can strive for an ideal and live it, and when you aim for what is right and pray for it – then your practice is safe.

The eyes of our minds can bring both good and evil to our lives. Let us close our eyes to the irritating responses of our fellow dentists. They act upon habit, sometimes by impulse. But we will never help ourselves by brooding over their ways. Our job is to see beyond the things we do not like, to that which is good to us and to them. By so doing, we do more than tolerate them. We find something in them which strikes a common chord in our lives and makes our lives a little richer than they were before. Let us close our eyes to that which is not good, and always look for the best in our colleagues.

The Responsibility of the Dentist to his Community as a Citizen

In recognizing and assuming the dentist's responsibility to his community, it must be remembered that the true measure of a dentist's success is the constructive influences he exerts in his community of which he is a part. It is the dentist's responsibility to be a public-spirited citizen and he should command the respect of his fellow-citizens in his community, identifying himself with all health programs and accept his responsibilities as a forward-looking leader. You constantly strive to provide the patients in your community with dental health services that will bring them a high level of health, comfort and appearance and by so doing, you reflect credit on yourself, your profession and all mankind.

The building up of a dental practice should also contribute to the building of your community. But your practice alone, however interesting and conducted, should not entirely occupy your lives and interests. It should take its normal place among other interests, economically supporting them but not dominating or dictating to them. In the budget of our lives, there should be adequate time for being citizens, neighbors, parents, friends as well as for being professional men. There should be time for play, for worship, for avocation, for reading, for sharing the common life as well as for work. Most young dentists intend to live that way, but for too many of them, their practice becomes more and more engrossing. They put off other interests until they are well established, and by that time the habits of life are set and nothing is deeply interesting except the practice, the sports page, television, gin rummy and the daily papers.

Life habits are fixed early, your community needs your interest from the start. A young man entering the dental profession does well to try to follow a natural and unrestrained process of development into competence and reasonable income. If he can forget trying to "keep up with the Jones", and can overcome the itch of a big reputation and a prominent place and if the dentist and his wife can be in harmony in that attitude, then he can have his mind on com-

petence and service. He will enjoy living with himself and his family. He probably will not have stomach ulcers and nervous breakdowns, and those who use his services will enjoy doing so. He can give attention to developing his powers and skills, his neighborliness and his human relations.

Responsibility to our Auxiliary Personnel

In a successful dental practice, we must be prepared to meet the new responsibilities and problems which are presented by to-day's swiftly changing conditions. As we provide added direction, and counsel, encouragement and treatment to patients, we must also provide adequate auxiliary personnel. To-day's highly trained and courteous dental assistants – and soon dental hygienists and technicians – are important members of our dental health team. Let us extend our appreciation to them and not be like some who can say "well done" only when ordering a T-Bone steak. To-day, the ethical dentist and technician recognize that there must be proper coordination between biological factors and mechanical procedures. The dentist expects from his laboratory, the best material, quality workmanship and adequate service. The laboratory expects from the dentist, good models or impressions, ethical dealings, enough time, sufficient instructions and above all – prompt payment.

The Dentist's Responsibilities to his Family and Himself

Very early in his professional career, the dentist should set up definite, ultimate objectives, including professional, social and financial aims along with provisions for his continued dental education. He must remember that in addition to overhead personnel, his family must share in his fees and he should provide for himself and family in old age. He should save a portion of his earnings every month, purchase life insurance for protection before extensive investments are made – pay off all loans, mortgages and other large obligations, before attempting to make money from securities. After debts are paid off, the dentist should arrange his affairs so that he is in a strong "cash position", in order to take advantage of opportunities to invest. He should investigate tips carefully by checking with a reliable and experienced banker or business executive and he should review his investment portfolio at least once a year. Remember the greatest enemies of the dentist are speculation and extravagance. Before you invest, investigate. It is better to accumulate and accumulate slowly, than to try to get rich quickly and end up in relief.

BOARD OF GOVERNORS
NOTICE OF MEETING

The Annual Meeting of the Board of Governors of the Canadian Dental Association will be held on September 11, 12, 1987 (Friday and Saturday respectively) at the Four Seasons Hotel, Ottawa, Ont., commencing at 9:00 a.m. on September 11.

It is brought to your attention that meetings of the Board of Governors are open to all members of the Association.

The Board is composed of twenty-five governors with voting privileges and a Chairman. Governors represent members across Canada on a 1 to 500 ratio. The Canadian Forces Dental Services and Student members are represented by one member each.

In addition, there are two non-voting members, namely, the senior dental representative of the Department of National Health and Welfare and the Department of Veterans Affairs.

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CURRICULUM CHANGES
BASED ON TEACHING ADVANCES

John Eisner, DDS, PhD

INTRODUCTION

Dental caries and periodontal diseases have long been recognized as the human dentition's two most destructive forces. Advances in patient education, fluoride delivery and sealants have greatly diminished the present, and certainly the future, impact of dental caries. While some advances in the fight against periodontal diseases have been made as a result of plaque control, advertising, and the dental hygienist, the gains do not compare with those being observed in dental caries. Part of the difficulty faced by practitioners when attempting to treat periodontal diseases results from the differing attitudes of dentists toward the treatment of these diseases when compared to dental caries. Since at least the time of G.V. Black, many dentists have associated quality of patient care with the smoothness of margins, the color match of porcelain and the absence of "high spots". In recent years, a more dynamic concept of occlusion has been embraced by some practitioners, however, their familiarity with the periodontium continues to be largely based on their trust that the elasticity of the periodontal ligament will restore a "balanced" occlusion after their repair work is complete.

Periodontal treatment simply does not conjure up the same positive images as restorative dentistry. Somehow, there does not seem to be the same degree of pride or satisfaction in a smooth root surface or a gingival sulcus that does not bleed. Part of this has to do with the degree of finality associated with each service. A completed restoration is immediately serviceable, obviously "successful", and does not usually need attention for five to ten years. Periodontal treatment is quite different. The dentist is never sure if the initial treatment will be successful and once started, treatment or maintenance is virtually continuous as long as the patient is dentulous. The basic difference between these two disciplines is that restorative dentistry deals in products, while periodontics is more of a process. A second important difference is the degree of patient involvement with each of treatment initiatives, which is quite low in restorative treatment and very high in periodontal treatment. Finally, Periodontics now focuses on tissue healing, microbiology, and immunology, all of which are less well understood than cavity preparation, posts, crowns and even partial dentures. In every other aspect of dentistry, save public health, the results are obvious to both dentist and patient. In the words of a classmate when asked why he didn't do more periodontics in his practice: "Perio is a practice killer. Patients pay good money, go through considerable discomfort, and a few months later feel they have little to show for it. In my practice the hygienist does routine prophylaxis, but beyond that – forget it".

In my view, our teaching programs are failing the profession and public. The profession practices perio far less than it should and the public not only neglects its periodontal health, it does not recognize the disease, does not clearly understand how to prevent the condition, and does not usually seek treatment. Given this state of affairs, what recent advances have been made in teaching and what can the teachers of periodontics do to improve the situation? The balance of this paper will present several suggestions.

METHODOLOGY – An Enhanced Model Of Instructional Design

To investigate the condition of our undergraduate teaching programs in periodontics, I have chosen to work with a general model for instructional design which is adapted from the one described in the literature by Rowntree.[1] It is illustrated in Figure 1 and contains the following design elements:

Assessment of the Real World
Stating the Instructional Objectives
Design of Student Evaluation Strategies
Design Teaching/Learning Strategies
Preparation of the players – patients, staff and students

Conduct of the Teaching/Learning Process
Formative Evaluation of Students
Summative Evaluation of Students
Course and Staff Evaluation
Reassessment
Revision

Use of this model will provide a schematic backdrop for asking the basic questions "What are we doing now?" and "What do we know about each element of the model". Investigating each element of the model from this perspective will bring to light a variety of opinions and examples for your review and discussion.

ANALYSIS – A Review Of Teaching Practices In Periodontics

1. Assessment of the Real World

This first element in our instructional model is critical as it determines the general direction of our teaching programs. Ideally, we should be doing job, task and market analyses as well as an analysis of current trends in research related to periodontics. From this should develop a strategy for domain specification or domain referencing that would provide a description of all "periodontal" diagnosis and treatment situations which the general dentist needs to be prepared for. These analyses (although hypothetical in this case) might well lead us to most, if not all, of the ten points of departure which are included in Appendix A.

What is needed for this aspect of the model is a written statement of where we think we are going. This is often called a goal statement but unfortunately most Division Heads or Department Chairpersons in Periodontics carry such a perspective around in their heads, only articulate it occasionally, and almost invariably fail to write it down. However, once placed on paper it can be debated by members of the Perio faculty and, even more important, by the other members of faculty so that a common image of periodontal therapy in our curricula can be shared. One should not forget that specialization is often a handicapping condition which results in a certain degree of myopia; therefore a more general distribution of the document is essential. The goal statement should be modified every three years and while the AADS Curriculum Guidelines for Periodontics[2] may be of some help, they definitely do not qualify as a goal statement about the teaching of undergraduate periodontics.

Unfortunately, we get fairly low marks for our efforts related to this element but hopefully the foregoing suggestions are worth considering further. Whatever your assessment of the real world and your resulting goal statement might suggest is up to you, but they will invariably lead you to the next step in our instructional design model, which is the writing of course objectives. Although our accreditation process demands objectives, they are the second step along the path and are often quite inappropriate without the direction which a good ongoing assessment of the real world should provide.

2. Stating the Instructional Objectives

In a four year undergraduate curriculum where there is strong competition for the students' time and interest, it is not likely that any one discipline can realize all its objectives. However, this fact should not dissuade you from writing them all down then perhaps preparing a "limited" version for actual implementation. In this way you will know (and be able to convey to the Dean and Curriculum Committee) what you are doing as well as what you are not able to do. This technique of objective writing might also provide you with incentive to be more creative in narrowing the gap between the two lists.

I suspect no school has two lists and while you all have one list it may not be in the best condition. For the purpose of illustration Appendix B offers a list of objectives which flow from the previously stated (and, of course, somewhat hypothetical) assessment of the real world of periodontics in general practice.

The list is obviously not complete but serves to highlight some of the objectives that are missing from most traditional lists. While discussing what we should do by way of objectives, be reminded of the desirability of stating them in behavioral terms which also describe the conditions necessary to satisfy their completion. This will be particularly important if one is to be successful in designing an evaluation strategy as outlined in the next section of our model.

3. Design of Student Evaluation Strategies

This stage of the instructional design model is occasionally overlooked by educators in favour of the "make up the test at the last minute" strategy. Pre-clinical and clinical course directors do not have this luxury as the early publication of lab and clinic manuals requires their commitment to some form of evaluation before the course begins. After writing course objectives it is important for both didactic and clinical course directors to immediately consider the types and levels of achievement they wish their students to attain as this will dictate both the level at which the material is targeted and the manner in which the information is presented. Such decisions cannot be made post-hoc and to make them quickly at the beginning of a course for the sake of meeting a printing deadline, is to allow the resultant teaching style to impose limitations on learning. In other words, the limitations of a weak evaluation strategy can also limit the teacher's ability to be instructionally creative and is bound to limit the learning possibilities of the students. However, if the level and type of evaluation strategy are decided first, and appropriately, then there may be a chance that the instructor will realize that a more creative teaching strategy is required to actually achieve the previously stated objectives and conduct successful evaluations.

A clinical example of this limited evaluation strategy can be seen if we look at the objectives suggested earlier. Several refer to the behavioral sciences, some to diagnostic and communication skills and others to management skills. However, our current clinical objectives and evaluation strategies focus mostly on products such as a restoration and in periodontics, even though the treatment is more of a process, we often pretend that it is made up of pieces or products. Scaling, oral hygiene instruction, equilibrations and surgeries are counted up until all requirements are completed. We rarely look at the process and given the continual student turnover and questionable patient monitoring capabilities in most of our Faculties, students do not often have to follow their own treatment results.

Didactically we focus on recall and recognition and even though we give fourth year students "cases" to diagnose and treatment plan, the cases are often followed by multiple choice or short answer questions which are, in themselves a guide to the treatment of the case as they not only provide structure, they are also replete with cues which help the students arrive at the correct answers. Real life does not have multiple choice questions with cues and no one writes their objectives specifying that a student must answer "7 out of 10 sequenced, multiple choice questions with cues" in order to pass.

To improve these conditions our evaluation situations must be seen to be relevant to the practice setting. Behavioral science, communication and management are relevant but we usually fail to convey this relevance to students for the reason that our tests and our clinical evaluation strategies rarely require the student to think, problem-solve or otherwise successfully manage the treatment needs of their patients. Even when we do press students to create a good treatment plan we frequently fail to monitor its progress or see if the student follows it in a timely fashion. Dalhousie probably has one of the best computerized treatment plan and patient monitoring systems in North America, yet students still find ways to treat their patients "à la carte", picking

and choosing among the various services as their clinical requirements dictate rather than following the treatment plan. In the real world, developing and following the treatment plan is very important and clinical requirements do not exist. Yet in school we manage to pervert this so that requirements become more important than patients.

There are two strategies which, if followed closely could help to recoup what may have been lost if your first two elements of this model are not in the best shape. These two strategies involve taxonomies and test blueprints.

A taxonomy is simply an ordered list or, in this case, a hierarchy of the types of things students could learn if we organized their environment correctly. The most well known taxonomy is one developed by Bloom[3] which describes six levels of cognitive learning. This taxonomy, along with an eighth level taxonomy of clinical learning developed by this author are shown in Table 1. In both lists the easiest or most basic levels are at the beginning, with recall and recognition skills accomplishing this for cognitive learning, and perceptual and motor skills for clinical learning. Application, analysis, synthesis and evaluation are the higher, more demanding levels of cognitive learning while postural, judgement, patient management, productivity, practice management and quality assurance skills are the more demanding clinical skills.

Understanding the taxonomies is the easy part. Knowing how to use them to design your evaluation strategy is the more difficult task. The challenge is to decide how much of your course's evaluation process should derive from each of the taxonomic levels. This is where the second strategy, the use of a "test plan" or "test blueprint" comes into play. Figures 2A and 2B display cognitive test blueprints, one for an introductory course and one for a more advanced course. For comparison, Figure 2C displays an evaluation blueprint for a clinical course. Each major topic is listed across the top of the page and each level of the taxonomy is listed down the side. The first step is to fill in the far right column totals which will determine the basic level at which you will examine the students and, by obvious extension, teach the course. The introductory course, shown in Figure 2A, has a greater weight on the lower two levels of recognition and recall, with only 20 per cent devoted to the application level and 10 per cent to synthesis. The more advanced course, displayed in Figure 2B bypasses the recognition and recall levels in favor of a heavier focus on application with equal amounts on analysis, synthesis, and evaluation. The second step is to fill in the totals along the bottom of the page which will determine the relative importance of each major topic within the course. (You may choose to sample among these so that some topics are covered in third year and others in fourth year or some topics in one midterm test and others on the final examination.) The third step is to fill in the totals for each cell so that all rows and columns balance. Finally, you should write the questions which fit into each cell for cognitive tests or develop the appropriate evaluation strategy for each cell in a clinical evaluation system. If the teacher expects the students to succeed in the more advanced course, the route of lectures and assigned readings may lead to failure. Thus, to a large degree the design of the test blueprint should not only reflect what needs to be demonstrated in the real world, it will also help to set up the kinds of teaching and learning methods required to allow students to successfully negotiate the planned evaluations.

4. Design Teaching/Learning Strategies

Most dental schools embrace a very traditional approach to didactic, preclinical and clinical teaching. The didactic classes are lectures with slides. The preclinical labs are based on the "tell, show, do" method with emphasis usually on the "tell" instead of the "show". The clinical teaching strategy is generally one which is isolated by discipline and based on the student describing what he or she plans to do then alternately proceeding slowly or waiting for the instructor, until the procedure has been more or less mastered and can be moved along more quickly in successive attempts. There are better learning strategies for all three environments if faculty will take the time to learn and design them. Let's examine each one in turn and explore some possibilities for improvement.

a) Didactic Teaching Strategies

In spite of the evidence that lecturing is very inefficient and often ineffective, we continue to lecture for two basic reasons: 1) it is how we were taught, and 2) it is believed to be easier than other "newer" teaching methods. When the preparation for class consists of putting last year's slide trays in order, we should ask ourselves if this is really teaching. There is often considerable trauma associated with overcoming the ego involvement of the new specialist when it is realized that although he/she is having a great time, the students aren't learning much. Problem-based learning, discovery learning, self-instruction, guided design, and socratic teaching are acceptable, and often better, alternatives to the lecture method. Faculty frequently complain that the students don't read the assigned material in preparation for their lectures, but if they cover the same material in class, as is usually the case, they reinforce the student's disinterest in preparation. Strategies which encourage reading or other forms of preparation should be followed if this type of student learning is considered desirable.

One should also distinguish between enjoyable, stimulating lectures and those of the boring variety. If the lectures are boring and the tests are easy (frequently a necessary correlate), students will skip the lectures. Although some lectures (or lecturers) are very entertaining, they may still be inappropriate to the objectives of the course, particularly if the objectives and evaluation strategies were well conceived. For example, a lecture series that focuses on basic concepts and their application to practice will not be helpful if the objectives are aimed at synthesis, analysis or evaluation. If these higher levels of cognitive learning are desired, a learning strategy is needed which draws students into situations where these intellectual processes are exercised. Frequently, it is quite helpful to insert several slides during the course of a lecture which include the higher-order questions which students are expected to answer on the final exam. Discussion of the question and the answer in class will provide essential cues and will guide students through the cognitive processes which are desired. A similar questioning and demonstration strategy is recommended in clinical teaching to help students look for cues and understand their clinical significance.[4]

To conclude this section on didactic learning strategies, suffice it to say, that one should make a conscious choice among a variety of learning strategies depending on the subject matter, the level of learning desired, the learning styles of the students and the skill level of the faculty. If possible, two alternative teaching strategies should be offered as the learning styles within a typical class are usually heterogeneous.

b) Pre-clinical Teaching Strategies

In preclinical labs the "tell, show, do" model is most frequently used but many schools remain very limited in the number of exhibits available for student inspection. For example, models and pictures illustrating inappropriate designs, techniques or results are not used nearly enough. Indeed a common weakness in students results from their moving to the motor skill stage before their perceptual skills are adequately developed. Thus starts a process of mimicking the ideal rather than understanding the procedure as well as its acceptable and unacceptable variations, a process which is the foundation of self-assessment.

In periodontics we have placed little value on pre-clinical skills and have frequently demeaned the efforts of dental hygiene faculty to teach fundamental calculus detection and removal skills on typodonts.

Recently, some dental hygiene programs have explored ways to teach root anatomy also using typodonts or extracted teeth. Understanding the contours of bi- and trifurcations is essential for developing root planing skills, yet there is little emphasis placed on these skills in the undergraduate periodontics curriculum. This author has helped develope a calculus detection exercise for pairs of State Board examiners which is designed to improve their evaluation skills and increase inter-rater reliability which could easily be used for student teaching and faculty calibration but to date, only dental hygiene faculty have shown any interest in using the instrument.[5]

Pre-clinical preparation in the behavioral sciences, particularly related to motivation and communication skills has also been almost universally absent from our undergraduate periodontics curricula. Self, peer, and staged interactions with patients or staff which are video-taped and then assessed by students would seem to be essential, based on the level of patient cooperation required for successful periodontal treatment. In fact, of all the disciplines in the dental curriculum, periodontics should lead the way in demanding, or developing themselves, a serious behavioral science teaching program. Why should Departments of Community Dentistry struggle with teaching communications skills in the abstract when periodontics could teach it more successfully because of its direct application to their "real world" difficulties with patient treatment?

To summarize this section on pre-clinical learning strategies it should again be clear that the faculty must consciously select a learning strategy which meets the objectives and evaluation strategies for the program.

c) Clinical Teaching Strategies

Clinical teaching is usually our strongest suit but here again at least five problems are virtually endemic. The first is a lack of planned, live demonstrations by faculty. The approach where the student watches the faculty do a procedure then the student does one is used all too infrequently. Any program with access to a computer should be able to monitor the number of demonstrations received by students and identify, in advance, if one is warranted.

A more damaging clinical teaching problem is the absence of a more realistic patient care environment. I am a vicarious advocate of the "Pennsylvania Experiment" where faculty were responsible for patient care, clinic management, collections, recalls, etc., while the students worked and learned as associates in the practice.[6] In Canada, where some schools are still struggling with the transition from discipline-based clinics to a comprehensive patient care system, it is unlikely that a further quantum leap to a practice-based system will occur overnight.

A third clinical teaching problem specific to periodontics is the persistence of a learning environment that does not demonstrate a co-operative working relationship between periodontics faculty and dental hygiene faculty. This is an inappropriate training ground for our future practitioners. Similarly, a learning strategy that does not involve dental students working with dental hygiene students is inappropriate. Indeed, a faculty of dentistry that does not either conduct a dental hygiene program, or have a strongly integrated clinical teaching program with an affiliated dental hygiene program, is not being responsible to its dental students. Similarly, a Department of Periodontics that does not include at least one faculty member who is a dental hygienist and a staff dental hygienist to help with patient flow, management, and communication is similarly projecting a less than adequate image to dental students. In my view a current objective of every undergraduate dental program should be the co-operative management of patients between dental and dental hygiene students and this must be overseen by obviously co-operative faculty relations. On this note, it is important to distinguish between superficial and serious co-operation. I have seen Faculties with periodontics divisions and dental hygiene programs that do not use the same systems of patient classification, charting methods, instrumentation, oral hygiene instruction, or the same criteria for student evaluation. It takes no time at all for the students to realize these discrepancies and to form their own opinions about the need for any co-operation in private practice.

A fourth deficiency in clinical teaching, although not exclusively within the province of periodontics, is the never-ending quest for co-operative treatment planning and continuity of supervision both within and across disciplines. If a faculty does not build into its teaching/learning system a definite strategy for co-operative treatment planning and monitoring, then students will suffer as they are successively supervised by different faculty who invariably have different advice for them as to how best to proceed. Each individual is well meaning but the result is negative learning and unacceptable patient care. The positive role modelling which can be provided by regular discussion of treatment alternatives between generalist and specialist or between two or more specialists is important to build into the system as opposed to regularly exposing the student to territorial disagreements.

A fifth deficiency involves student frustration over treatment plans and patient progress which is frequently exacerbated by grading or patient requirement schemes which present periodontal treatment as a hurdle which must be jumped before proceeding with other treatment. While the importance of treatment sequencing might be realized from this strategy, it is more likely that the result will be strongly negative student attitudes toward the periodontics faculty and patient care. For example, forcing students through an exhaustive "periodontal charting" process for every patient in the Fall prior to being allowed to progress to other disciplines will result in students trying to beat the system because they know there will be even stronger pressure from other disciplines later in the year. Better planning or preparation during the previous Spring might be advisable, or possibly the development of some type of triage mechanism which will allow either 1) the fairly rapid movement of some patients through periodontics, 2) the shared treatment of some patients with other disciplines, 3) the delegation of some patients to dental hygiene students and, 4) the exclusive completion of periodontics treatment for the remaining patients before they proceed to other disciplines.

Finally, the problem of monitoring the progress of treatment must be mentioned. If sufficient time is not available in the curriculum for the required treatment of each patient, periodontics with its absence of lab work, will tend to assume a lower priority in the student's mind and corners will be cut in order to get the patient into other clinics. Developing a schedule of treatment with the student and patient, then monitoring patient progress may well be what is needed, at least initially, to ensure that students learn the correct methods of managing the periodontal care of their patients.

To summarize this section on clinical teaching strategies, the problems of insufficient demonstrations, unrealistic patient care settings, co-operation with dental hygiene programs, and the frustrations

TABLE 1

A Comparison of Cognitive and Clinical Instructional Taxonomies

COGNITIVE	CLINICAL
1. Knowledge (Recall)	1. Perceptual
2. Comprehension (Recognition)	2. Motor
3. Application	3. Postural
4. Analysis	4. Judgement
5. Synthesis	5. Patient Management
6. Evaluation	6. Productivity
	7. Practice Management

associated with treatment planning and patient monitoring have been explored. The quality of the teaching that occurs in the clinical environment is usually associated with the quality of the one-on-one interactions between students and faculty. It must be recognized by the periodontics faculty, collectively, that these one-on-one interactions occur within the larger clinical setting which they also must shape. Acquiesence to an unacceptable clinical environment will negate any gains that might have otherwise been made by good individual clinical faculty. Developing these faculty is one of the subjects in the next section of the instructional model.

5. Preparation of the Players – Faculty, Patients, and Students

This section of the instructional design model has been added to Rowntree's original model because of the unique demands of the professional school environment where many patients and several different faculty are involved in a single course. Normally, a teacher who designs the learning environment is familiar with the techniques, materials, or technologies which are selected; however, such is not usually the case with clinical disciplines in dentistry. In this section the preparation of faculty, patients, and students for a productive teaching/learning interaction will be explored.

a) Preparation of Faculty

Perhaps the single, most inexcusable deficiency in dental education is the almost complete lack of initial preparation and subsequent continuing education of our faculty in the art and science of teaching. Without going into all aspects of faculty development, three important elements of clinical faculty preparation will be discussed here.

The first focuses on the lack of orientation and involvement extended to full and part-time faculty regarding the development of the teaching program, clinical criteria and clinical evaluation criteria. Frequently, new faculty are not even given a syllabus, clinic manual, or course manual, nor are they required to sit in on lectures which would assist their preparation for clinical teaching. In today's world of technology it would not be hard to distribute such manuals or to video-tape the required lectures and distribute copies on a weekly basis to all faculty for their individual review on their home VCR machines. Whatever the method, all instructors in a given clinical course should be familiar with the material, the procedures, the patient care strategy and the clinical evaluation system, which is to be used before they start.

The second aspect of clinical faculty development which should be undertaken is a serious course in one-on-one instruction. Most faculty think this form of teaching is relatively easy, at least in comparison to lecturing, and that the interaction with students and other colleagues is quite enjoyable. However, given that more than half of the curriculum is taught using one-on-one instruction it may well be advisable to invest some time in preparing faculty for this task. An excellent model for clinical teaching has been developed and is described in a set of manuals and videotapes titled "The Science of One-on-One Clinical Teaching in Dentistry" and is available for this purpose from the University of Michigan.[7]

The third aspect of clinical faculty development which is almost universally overlooked is the calibration of all instructors teaching a given course so that they are able to approach learning situations and assess student performance in a similar fashion. No one expects instructors to be perfectly calibrated but there are very few disciplines in very few schools that have actually incorporated a calibration regimen into their academic schedules. Although this is possible to do, it is not yet thought to be important enough to work at, given the other pressures of academic life. One source of frustration exhibited by students arises from the obvious differences in the ability of instructors to recognize deficiencies and/or evaluate students in a consistent fashion. There are many reasons why faculty must make the effort to become calibrated, but perhaps the best one is that they are role models in a system which, in the absence of any serious attempts to become calibrated, blatantly demonstrates the failure of the first professional peer review opportunity seen by students. Consider for a moment the modelling which would result from an instructor team which, once a month, openly worked together on the floor to observe, compare, and discuss their teaching and evaluation skills, in front of or with the students, in an effort to maintain the calibration standards set within their discipline. The teaching potential of this suggested calibration regimen is virtually untapped and is clearly worth further study.

This section has outlined three important aspects of faculty preparation for their clinical teaching responsibilities – preparation in both content and clinical procedures, one-on-one teaching, and calibration. If one believes that faculty should be accountable for their actions as teachers, it would seem to be hardly fair to expect excellent, or even adequate, performance of these skills without the prior preparation of faculty for their teaching responsibilities. If patients can sue general dentists for neglecting their developing periodontal disease, could not students sue their teachers for neglecting their faculty development responsibilities? It may be a harsh concept for some, but a dentist who becomes a dental educator, even if for only one day out of the week, must actually become a dental educator. Although their up-to-date clinical skills are considered to be the part-time faculty member's biggest asset, the liabilities of being a bad teacher cannot be outweighed by being a good clinician.

b) Preparation of Students

In dental school, faculty generally set the rules and students follow them, at least as long as the rules seem reasonable and obviously lead to a desirable end. Sometimes we forget to tell the students some of the rules, or the rules are so different from one discipline to another that confusion sets in quickly. Listed below are a few situations where the rules could probably be better explained or at least simplified.

1) If you are using a different cognitive learning strategy in your classes (for example, one that assumes an active rather than passive pattern of student behavior), explain your intentions to the students, encourage their cooperation, and do not necessarily retreat to your old methods at the first signs of discomfort. If you are perceived as both serious and enthusiastic, your efforts will probably be rewarded.

2) In one-on-one teaching situations, explain to students that there is a routine to be followed when initiating a question. For example:

– student confirms current task or project

– student describes progress

– student describes or displays any problems, questions, or points of confusion

– student describes a proposed solution (always)

– student requests instructor assessment of situation and confirmation of proposed solution or instructor's analysis and suggestions.

Instructional Design Model

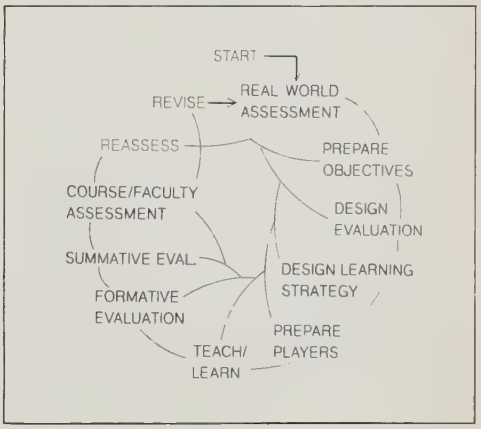

FIGURE 2A

Test Blueprint

(Introductory Course)				
DIFFICULTY LEVEL	TOPIC 1	TOPIC 2	TOPIC 3	Difficulty Weights
RECALL				30%
RECOGNITION				40%
APPLICATION				20%
ANALYSIS				
SYNTHESIS				10%
EVALUATION				
Topic Weights	30%	60%	10%	

– instructor will probe for other information or alternative from student
– a course of action and time frame is agreed on

With this protocol in place, the burden of thought, problem-solving, analysis, discrimination, etc. lies with the student. This protocol emphasizes an active learning and problem solving approach which cannot be achieved (except through many instructor questions) if the student simply starts the dialogue with "Is this O.K.?"

3) Establish simple protocols for the student to follow when introducing a patient to the instructor, when the student wishes to talk to the instructor out of the patient's earshot, or when the instructor similarly wishes to talk privately with a student. Such protocols will save time and student embarrassment.

To summarize this section on student preparation, it has been suggested that both parties to the teaching/learning transaction will likely benefit if the rules are known, especially if these rules promote an active learning style or a collegial pattern of student-faculty dialogue.

c) Preparation of Patients

By and large, faculty within the various disciplines do not spend sufficient time working with the Clinic Director or the students themselves to prepare a patient family that will not only be manageable by the student but will also be broadly instructive. In the context of this paper, patient preparation will take on two different meanings. The first refers to patient selection or assignment while the second will refer to the preparation and management of the treatment plan.

Patient assignment, particularly in the more recent comprehensive care systems, is a complex, but not impossible task. In several programs I am familiar with, the screening process is not sufficiently rigorous. Too many patients are allowed into the treatment stream and some discover, at a very inopportune time (near the fifth or sixth appointment), that the commitment expected of a dental school patient is more than they can afford. With more patients than desirable the burden of taking them all through periodontics en route to other treatment is simply overwhelming and very unnecessary. Better selection and rejection criteria would assist the Clinic Director and the Periodontics faculty in assuring on adequate breadth of treatment needs within the smallest possible patient family. To further assist the student's patient flow, some patients with periodontal treatment needs should be assigned late in the spring or prepared over the summer so they are ready for treatment in the fall. This practice would be an obvious help at this busy time of year. Faculty within Periodontics should have computer programs that will instantly describe the status of all periodontal treatment within a dental student's patient family, denoting procedures completed and procedures remaining to be completed. This management information, along with time spent to date and time still available will give them a good perspective on patient assignment problems. A good computer program would also sift through each student's situation and identify those who are just beginning to show signs of a mismatch, thus making the faculty's task of monitoring patient care much more manageable. If these suggestions were followed, the periodontics patient load for each student would be prepared in advance, reasonably well confined, constantly monitored and available for adjustment whenever necessary throughout the year.

The second type of patient preparation is particularly important in the second and third years of a four-year program. It involves the faculty member as co-therapist who works with the student to lay out a reasonable sequence of appointments, using available clinic time, so the student sees a definite plan of attack for each new patient that is assigned. This type of preparation not only displays good role modelling, it also goes a long way to reduce student anxiety and organize their time and energy at a time which such organization may well be foreign to them.

To summarize this section on patient preparation, it is by now redundant to suggest that great objectives, good instructional strategies and well-prepared faculty are rendered ineffective without the right patients, a reasonable approach to the completion of their periodontal treatment, and a way to monitor both. Indeed, this entire section has emphasized the need for each of the three players – the faculty member, the patient, and the student – to be prepared for their roles in this complex learning environment. One cannot take such preparation for granted and expect the next section of the model, the instruction itself, to succeed.

6. Conduct of the Teaching/Learning Process

If the previous five elements of our instructional model have been adequately followed, the teaching should be both enjoyable and effective. Rather than engaging in a close examination of the teaching/learning process itself, this section of the presentation will focus on four levels of organization which can either constrain or promote that process. These levels include the curriculum, the faculty, the students and the organization of patient care.

a) Organization of the Curriculum

It is unfortunate that because of a greater reliance on the basic sciences and the relatively limited pre-clinical phase in most periodontics curricula, that the earliest learning experiences in dentistry have traditionally favored operative dentistry or prosthodontics. Oral hygiene, preventive dentistry, and periodontics should, in my view, precede any of the restorative disciplines, and some schools have worked hard to introduce these topics at the very beginning of the curriculum. I commend these initiatives and would suggest that all Faculties pursue this goal. A second suggestion is the expansion of a perio preclinical component of the curriculum to include much greater emphasis on the basics of instrument sharpening, instrumentation, root anatomy, microbiological assays, and most important in my view, skill development in the behavioral sciences. Finally, the emphasis on periodontics in the clinical curriculum should be expanded, perhaps at the expense of greater efficiency in operative dentistry and complete dentures, but that is a debate for another forum. Part of my reasoning for an increase in periodontic clinical activity is the expectation that some of the surgical procedures which have not been taught to a high level of proficiency in the past, will play a larger role in the undergraduate curriculum, moving from the graduate programs as they, in turn, become more biologically and research oriented. These suggestions are also being debated in many other arenas and will not be developed further in this paper. Suffice it to say, that a Faculty's view of the real world and its future in that world will be reflected in the amount of attention directed to periodontics, and I am suggesting that an increase in time and sophistication will result in the near future, unless, the incidence of periodontal disease begins a marked decline as has been the case with dental caries.

b) Organization of the Faculty

It will be important to maintain reasonable faculty/student ratios in the clinic, particularly if the teaching of periodontics becomes more sophisticated. If budgets do not allow this, more creative use of students

as peer teachers should be considered for non-surgical treatment. More important than ratios perhaps, is the degree of planning which goes into creating clinical faculty teams, particularly in comprehensive care programs. Compatible faculty teams are needed which can engage in productive cross-discipline treatment planning on the clinic floor, without traditional consultation delays, and which monitor treatment in a consistent fashion over the course of the academic year. The involvement of dental hygiene faculty in such teams has been previously mentioned and should be seriously considered when planning interdisciplinary faculty coverage.

c) Organization of Students

Although the organization of students into vertical groups (4th, 3rd, 2nd, and D.H.) has merit in cross-year teaching and narrowing the size of assigned patient families, they have usually been difficult to administer. As a more limited concept, consideration should at least be given to 4th year DDS – 2nd year Dental Hygiene teams and providing opportunities for 3rd year students to transfer unexpectedly difficult patients to 4th year colleagues when necessary. Having these two student pairs in place should be helpful to students and to the management of clinic patients. The ease with which peer evaluation exercises can be designed with these pairs might also be a factor to consider when planning the organization of students in your clinics.

d) Organization of Patient Care Activities

Two points can be raised regarding the role of periodontics in the organization of patient care activities. The first has been previously alluded to and centers on the current weaknesses of periodontal records, the classifying patient education and motivation as well as similar weaknesses in describing each patient's post-treatment maintenance regimen and potential for compliance. These are behavioral as opposed to tissue-related classification weaknesses which seem to stem from the fact that periodontal treatment is an on-going process, rather than a product, heavily dependent on patient motivation. If these difficulties exist in the real world we should address them as researchable questions and involve students in the search for better classification tools. Some practitioners use patient questionnaires on a routine basis in an attempt to improve their understanding of these behavioral variables and perhaps this approach should be taken more seriously within our teaching programs. With regard to charting, it would also appear that in multi-practitioner dental offices (such as dental school clinics) a different approach to progress notes should be considered. For example, if there is a summer break of several months duration, perhaps much better treatment summaries should be prepared by students during the Spring Term so the student assigned to a new patient will be able to easily pick up on the patient's progress, treatment plan, and the results of previous education or motivation attempts. Thus, a better linear tracking and transfer system would seem to be essential whether or not a more sophisticated periodontal curriculum evolves in the near future.

In addition to these charting concerns, I would like to briefly touch on the central co-ordinating role that periodontics faculty could be playing in comprehensive patient care settings. Many treatment plans pivot on the success or failure of the periodontal treatment and many of the treatment choices in operative dentistry, endodontics, orthodontics, FPD, and RPD are dependent on periodontal treatment results. There is an excellent opportunity for the perio faculty to be the "floor managers" of the treatment planning process, playing the role of a helpful co-ordinator in complex cases to be followed by being a helpful monitor of patient progress during the various treatment phases that are simultaneous with and subsequent to the periodontics treatment.

Unfortunately however, periodontics faculty are often their own worst enemies. Perio treatment is often established as a check-point which must be negotiated before proceeding rather than an opportunity to co-ordinate. Years of neglect of the importance of periodontics by other disciplines has given the current generation of faculty the zeal of a non-smoker in re-asserting perio's right to a prominent place on the agenda for patient care. Such zeal however is an inappropriate expression of this refurbished status and a coordinating role would be far more successful in the long run.

A second way in which perio hurts itself is by occasionally (regularly in some Faculties) developing treatment plans which involve "hero periodontics". These overly ambitious and/or complex treatment plans, designed to save otherwise unsalvageable teeth, are frequently more appropriate for a graduate student but the faculty press on, displaying a specialist's approach to treatment planning. These patients should not be assigned to undergraduate students because their treatments can fail in the wrong hands, time is often robbed from other patients, and finally, because the treatment is usually extended longer than one academic year and the institution's ability to manage such patients is questionable. New faculty and new students become involved in the case and previous records are often unclear as to the intent or progress of treatment and new alternatives are sought. The initial student does not see the completion of treatment, the new student and faculty member may approach the situation with some confusion, and the patient is often lost in our academic shuffle. At the very least the extensiveness of our treatment plans should be limited by the ability of each discipline, and the clinic as a whole, to manage the patient's treatment. "Hero perio" is usually beyond such limitations.

FIGURE 2B

Test Blueprint

DIFFICULTY LEVEL	(Advanced Course) TOPIC 1	TOPIC 2	TOPIC 3	Difficulty Weights
RECALL				
RECOGNITION				
APPLICATION				40%
ANALYSIS				20%
SYNTHESIS				20%
EVALUATION				20%
Topic Weights	50%	25%	25%	

To summarize this section, we have looked at the impact of our levels of organization on the final process of teaching and learning. These levels included the curriculum itself, the faculty, the students, and patient care. Division Heads or Departmental Chairpersons in periodontics must realize the impact of these organizational levels on the success of their teaching efforts and take steps to insure they contribute positively to their programs.

7. Formative Student Evaluation

Formative evaluation is a process designed and used by faculty or students to test their knowledge or skill for the purpose of personal feedback. The results do not count towards a grade and are simply informative so that the student and faculty member can adjust the pace, style or content of the teaching/learning process or develop remedial learning opportunities to better meet the student's needs. Formative evaluation is actually an integral part of the teaching/learning process but is accorded its own section in this version of our instructional design model to highlight its importance and the need to build formative evaluation experiences into all aspects of the curriculum.

The previously mentioned example of posing a question in the middle of a lecture, giving the students a few minutes to formulate an answer, then discussing the results, is a simple method of formative evaluation. Students get immediate feedback on their understanding of the concepts being taught, but the setting is informal and ungraded. The concept of a "learning exam" is frequently used to provide students with a

FIGURE 2C

Clinical Evaluation Blueprint

DIFFICULTY LEVEL	TOPIC 1	TOPIC 2	TOPIC 3	Difficulty Weights
PERCEPTUAL				30%
MOTOR				40%
POSTURAL				10%
JUDGEMENT				10%
PATIENT MAN.				10%
PRODUCTIVITY				
PRACTICE MAN.				
QUALITY ASSURANCE				
Topic Weights	30%	50%	20%	

short take-home facsimile of a mid-term or final examination so they can again informally assess their own level of competence.

Opportunities for formative evaluation abound in all preclinical laboratory courses. The assessment of models, photographs, video-tapes, etc. during the lab period followed by the release of the correct answers near the end of the lab is the most common form of formative evaluation outside of one-on-one interactions with faculty. Use of ungraded self and peer assessment learning strategies in the laboratory and clinic are also excellent methods of formative evaluation and should be used routinely.

The absence of structured formative evaluation opportunities heightens the stress levels of most students and inhibits their potential for learning. Learning is indeed based on the acquisition and application or testing of new knowledge or skills. The faculty should be responsible for designing as many relevant opportunities for this to occur as is feasible. If this were to happen, even the presence of a single final examination worth 100 per cent of the grade would be no problem for a class that has been well prepared through the use of good learning exams or other formative evaluation procedures.

8. Summative Student Evaluation

Summative evaluation is the process of measuring (scoring) and finally assigning a grade for a student's performance. The procedures invoked may be identical in some cases to those used in the formative evaluation stage of this model, but this time they would count toward a final grade in the course. Having created a test blueprint and developed the entire evaluation strategy much earlier in the instructional design process, the task of now administering the various elements of the strategy should be reasonably straightforward. It is not the purpose of this paper to explore the multitude of issues related to evaluation in professional schools, however, several mind-stretching examples will be touched upon.

a) Didactic and Pre-clinical Testing

Testing activities in didactic and preclinical courses are considered together as a means of stressing the desirability of their approximation in the curriculum and as well as their similarity of purpose. In this regard the following suggestions are presented.

1) Recognition and recall questions should make up no more than 20-25 percent of any examination. Criterion referencing techniques, such as those proposed by Nedelsky[8], should be considered, particularly if a greater proportion of multiple choice questions is used.

2) Short answer questions with no cues should predominate over multiple choice questions.

3) The greatest emphasis should be placed on application questions.

4) "Bell-ringer" tests which give students 3-5 minutes at a station displaying models, charts, photographs, videotapes, etc., should be routinely used in an effort to offer a more practical style of examination.

5) Examinations in third and fourth years should draw upon outside readings but the questions should be at the application, analysis, synthesis, and evaluation levels.

6) Simulation examinations should be developed which involve micro computers and video discs. A common case presentation format should be developed so that a cross-Canada consortium can produce many simulations which are brought together on a single shared video disc, driven by an easily modified computer simulation software program.

b) Clinical Testing

Clinical evaluation strategies abound but many are either poorly designed or badly implemented by both full and part-time faculty. Periodontics is not exempt from such difficulties. Several rather cursory, but nonetheless essential, suggestions are offered below.

1) Use a simple rating scale that can also be learned and used by the students to evaluate both themselves and peers. Never average the ratings which are accumulated over the year. Use pattern matching techniques wherever possible.

2) Use criteria and/or standards of practice with anchor descriptions for each point on the rating scale for both practice in formative evaluation and in the actual summative evaluation experiences.

3) Use check-lists for initial evaluation activities. Use more sophisticated lists with fewer check points as the term progresses. Use the check-lists as required prerequisites to more advanced performance testing. If the check lists cannot be mastered, more advanced testing should not be attempted and the student should be given remedial learning opportunities before progressing.

4) Use the smallest number of practical examinations (c.f. mock board examinations) needed to ensure competence. These tests should be scored with strict adherence to the rating scale. Opportunities for additional tests should be made available, without penalty, for those who fail their early clinical performance examinations.

5) Use all levels of the clinical evaluation taxonomy in preparing your strategies and be willing to devote 30-40 percent of your summative evaluation to non-patient care activities such as chart audits, letters of referral, communication skills, and the general management of assigned patients.

6) Make sure your strategy is one associated with low levels of stress. The students should feel like they have learned something each day and should enjoy the clinical activities whether or not summative evaluation occurs.

This section of the model has briefly outlined a number of suggestions which could be applied to improve current summative evaluation procedures in periodontics. Once total scores have been developed, final grades should not be derived through a process of scaling but should follow a previously stated conversion formula. Uniformly poor class scores as well as uniformly excellent scores should stand unless fault can be found with the test or clinical evaluation system being used. Wherever possible, examinations should be returned or a post-examination review session should be held so that student errors can be quickly identified and not carried into the next academic year or, even worse, into private practice.

9. Course and Staff Evaluation

Course directors and individual faculty need to look at more than the distribution of final grades to assess the quality and effectiveness of their teaching activities. Course and staff evaluation forms can be distributed during a course as one method of creating confidence within the class and identifying possibilities for mid-course corrective measures should they be needed. Individual faculty assessment forms should cover their teaching activities, promptness, availability, helpfulness, rigor, and the amount of stress which they are perceived to create. This reasonably confidential information should be returned to the faculty member as part of a formative evaluation process allowing opportunities for in-service refresher courses or other forms of faculty development. Peers, Division Heads, Departmental Chairpersons and Educational Specialists should all be available to assess teaching outcomes and assist faculty in improving their teaching skills.

10. Reassessment

Information gathered from all aspects of the course, and therefore all the previously

discussed elements of this instructional design model, should be reviewed by course faculty. A faculty log of significant course-related events during a term will prove to be very helpful along with regular and post-course discussions with students. The use of student logs is also very helpful if several can be encouraged to keep them without being paid. Events which either helped or hindered the student could become a very valuable part of the reassessment process. Similarly, a review of the "real world" including research advances, new materials, market shifts and the suggestions of any part-time clinical faculty members on these topics should all be part of the re-assessment process.

11. Revisions

The need for regular course revision is self-evident in the dynamic professional environment which dentistry provides. The leadership status conferred on Course Directors, Division Heads, Departmental Chairpersons, Clinic Directors, Assistant and Associate Deans, and Deans themselves, requires their continuing effort to develop and follow a good instructional design process and to demonstrate their willingness to maintain high standards within the teaching programs. Unfortunately, such leadership is not always evident. Many of the suggestions illustrated in this paper are already known to periodontal faculty and administrative leaders in Canada, but there is usually little incentive for them to actually commit time and energy to improving their teaching program. Teaching, much like periodontics within a treatment plan, assumes a low priority because we can always rationalize a less than adequate result as being at least partly caused by the client. The pressures of private practice, the production of a scholarly curriculum vitae, visibility in national organizations, and the pressure of endless committee meetings all seem to prevent most of us from doing a better job. It is unacceptable to allow these pressures to deprive faculty of the time needed to develop excellence in their teaching programs.

Let us first look at the problems which can arise from faculty practice programs which, when abused, lead to less available time for the pursuit of excellence in teaching and research. Two problems surface quickly. The first is the frequent absence of a clear faculty profile (Figure 3) which outlines the responsibilities of a new faculty member while providing sufficient time to accomplish each assigned task. This means protected, uninterrupted time for those who do research as well as sufficient guidance and preparation time for those who teach. This means adequate time for administrative assignments. This means the offering of salaries which are reasonable and to which faculty practice supplementation is helpful, but not essential. When the institution's unspoken agenda is to keep salaries low, knowing that private practice will make up the difference, when faculty members accept this unspoken agenda instead of a reasonable salary, and when they do not have a strong commitment to the life and lifestyle of an academician rather than that of a clinician, abuses will flourish. Those full-time faculty who now spend more than eight hours a week in private practice should either desist or become part-time faculty. Division Heads and Department Chairman who are serious about their academic responsibilities should probably devote no more than four hours a week to private practice. Dental education is a demanding profession and should not be compared with specialty practice beyond the equivalent amounts of time which must be taken out of each day to gain competence in the two fields.

A second problem relating to faculty practice abuses, apart from initial role definition and salary position, is the apparent unwillingness, in most schools, to consider more creative approaches to the appointment of full and part-time faculty. Half-time appointments for teaching or clinical research should be available on a three to five year contractual basis. Promotion and tenure could be considered concomitant with the second renewal of contract along with demonstrated excellence and scholarship in their assignment. Under these conditions, part-time faculty commitment to a clinical group practice curriculum (c.f. Pennsylvania) would become quite feasible. The remaining four or five day full-time faculty salaries might be increased as a result of the above savings on the assumption that their appetite for faculty practice will be somewhat diminished. The leadership of our Deans must be demonstrated in the development of alternative appointment strategies, concomitantly supportive promotion strategies, and non-abusive faculty practice models.

In another vein, faculty could also do a much better job in their teaching roles if they conducted educational research projects and met their scholarly output targets in a way that contributes to, rather than detracts from the quality of their teaching program. Reducing committee assignments and non-essential administrative tasks might also provide some newly released time to devote to course design and development. In summary, the "real world" pressure of unreasonable time commitments imposed on most faculty, plus a lack of creative leadership to ameliorate the situation, frequently precludes them from improving their teaching skills and providing an educationally sound learning environment. These problems must be addressed.

Chairmen and Deans who travel a great deal and develop a high national profile do their institutions a great disservice if they do not communicate the information which they have gleaned back to their Faculties, and subsequently assist their colleagues to understand new issues and change their programs to keep up with significant advances in dental education. Leadership is often summed up in the words "communication" or "planned change" and institutions which are lacking such leadership soon cease to be stimulating environments. In the diminishing employment pool which dental education will provide over the next decade, leaders who do not lead, and educators who are not accountable will find tough competition from those in our Faculties who share an abiding interest in the future. Deans and Chairman should inspire us, lead our planned change initiatives and maintain accountability; Division Heads should design, facilitate and implement the changes; faculty should advise on the changes while performing their responsibilities; students should learn and excel; and all should go home at night with a smile, especially if the Division Heads and Course Directors have all had the necessary time to properly revise their courses as this last element of the instructional design model requires.

Conclusion

Teaching practices have advanced somewhat in recent years and soon computer technology will have a major impact on education just as advancing technology has impacted on the practice of dentistry. Professional faculties, such as Dentistry, have been so far removed from the previous educational advances (for example, television in the 60's and androgogy in the 70's) that knowledge of later ones, such as computer simulations, will probably have little immediate impact. The system of incentives and rewards in dental education does not require excellence in our teaching or administrative roles and, in some institutions, has not required much scholarship either. A strong commitment to clinical teaching seemed to suffice in the old days but now, in many of those institutions, there is a strong push for more research. Since, like my earlier comparison of restorative dentistry and periodontics, it is easier to count products, such as papers, than to measure excellence in the process of teaching, we may never do a significantly better job then we are doing now without serious changes to our system of promotion and tenure. For those who ask "What's wrong with our present (student) product, they are excellent clinicians!", suffice it to say, there

are others who believe this is not sufficient and there are still others whose measure of quality includes the enjoyment of their profession and the respect of their alma mater, products which are becoming harder to find.

However, with eternal resolve, one hopes for better leaders, better training for faculty, better training for administrators, a revised promotion system that, with the help of teaching dossiers, will not promote bad teachers who are good researchers or those who have simply put in their time without rocking anyone's boat. These things are possible. Most are even covered in the ACFD's Summer Teaching and Management Institutes. However, perhaps the biggest question still remains: "Who among you will step forward to lead us?"

Appendix A
Examples of "Real World" Assessment Statements

Patients

1. Patient education and motivation are the major determinants of successful periodontal treatment.
2. Present pre-treatment diagnostic classifications are inadequate in that they fail to consider the impact of the patient's behaviour and motivation on the disease's course.
3. Post-treatment patient classification systems are inadequate as they do not usually consider patient compliance. At best, the "recall" process appears insufficient to motivate the patient or to assist dentist and staff to monitor maintenance care. As a result this aspect of patient care is often haphazard and is in much need of improvement as dental practices in the future will tend to become less treatment oriented and more preventive and maintenance oriented.

Dentists

4. Dentists' ability to communicate and motivate are just as important as instrumentation and surgical skills to the ultimate success of periodontal therapy.
5. Dentist's ability to work synergistically or, at least, co-operatively with the dental hygienist is critical to the success of patient care in general practice.
6. Dentists are weak in their diagnostic and instrumentation skills, indecisive or reluctant about doing surgery, and unsure about when to refer patients to a periodontist.
7. Diagnosis and treatment will be more immunologically and microbiologically based than examination-based in the future.

Dental Hygienists

8. A good dental practice which is concerned about prevention and maintenance cannot succeed without at least one dental hygienist for each dentist and this ratio should increase as the practice expands.
9. The dental hygienist's ability to motivate the patient and communicate with both the patient and dentist are critical to the success of a "maintenance" practice. (Most dental hygiene programs place emphasis not only on instrumentation skills but also on communication and motivation, but most practice situations underutilize these skills.)
10. Dental Hygienists want to be more involved in treatment and treatment decisions than at present and would like to be partners in the maintenance phase of the practice rather than subordinates.

Appendix B
Examples of Underemphasized Instructional Objectives in Periodontics

1. After a patient interview, history and examination, the student should be able to correctly categorize four out of five patients with regard to their level of periodontal education and motivation.
2. Given the periodontal examination findings from a variety of patients the student will correctly determine in two of three situations, those patients who should be given microbiological assays and when conducted, the student will correctly determine, in three successive patients, the course of therapy to be followed based on the results of the assay.
3. Upon completion of the interview and examination the student should be able to develop an appropriate "preventive prescription" for four out of every five patients. Appropriateness is to be determined by the compliance of the patient rather than the approval of the instructor.
4. Upon completion of initial therapy or surgical treatment the student should be able to correctly categorize the patient's "maintenance motivation" and design a maintenance schedule that will be appropriate for four out of every five patients. Appropriateness to again be determined by patient compliance.
5. Given a list of ten "periodontal recall" patients, the student will appoint and examine all those who are available during the month specified for their recall visit and either continue the maintenance schedule, re-treat the patient, or return the patient to the care of their private practitioner.
6. Given the records and interview history of a variety of patients, the student will be able to correctly determine in four out of five situations, which patients are likely within his/her treatment capabilities and which might best be referred. For those who are referred, the student must write an adequate letter of referral three consecutive times.
7. Students will perform instrumentation and surgical procedures using correct patient chair/operator stool positioning as well as correct postural positions using indirect vision where necessary on five successive occasions.
8. Using video-tapes of patient interviews and preventive prescription presentations, the student will be able to successfully self-assess (as well as assess classmates and dental hygiene students) on their ability to listen actively to the patient and successfully communicate preventive and maintenance concepts in four out of every five assessment situations.
9. Using video-tapes of dentist-hygienist or dental student-hygiene student discussions of specific patients, their motivation and possible treatment strategies, the dental student will be able to distinguish between successful and unsuccessful patterns of communication with a dental hygienist.
10. Given videotapes of a variety of post-hygiene treatment inspections and conversations among the dentist, patient and dental hygienist, the student will be able to correctly identify appropriate dentist and hygienist behaviors which serve to reinforce and complement patient behavior as well as build hygienist and patient involvement in the treatment and maintenance of the patient's periodontal condition.

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CURRICULUM CHANGES
BASED ON TEACHING ADVANCES (RESPONSE TO DR. EISNER)

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We have heard how the practice of dentistry is changing at an ever rapid rate and we as educators must be cognizant and responsive to this change.

From the dental practice side we read about dentists who have declared bankruptcy, we hear of dentists who are not seeing enough patients, practice profiles have changed from single practices to associate, group and shopping mall type practices. Advertising and marketing of practices is lurking on the horizon. Capitation is rearing its head. These changes were seldom heard of prior to the past decade.

From the academic side we know that dental schools are closing, student enrolments have been cut. Applications to dental schools are down as is the patients pool for dental treatments. Further budget restraints to dental schools are imminent. These will further seriously curtail the dental education profile of our students.

Technical advances in applied clinical research with public awareness through promotion is adding increased pressure for the teacher and dental practitioners.

A recent survey by Christensen (1985) of dental practices in the United States and Canada clearly identified the changing treatment profile of dental family practices. Under the topic of periodontics the following comment was made:

"Periodontal disease continues to be present in most people, and it is likely that this situation will continue, at least for several decades. Additionally, the many teeth saved from caries by fluoride will require periodontal therapy from mid-life to death. The increase in periodontal therapy indicated in the survey is a strong indication of future indications."

It becomes evident that changes in curriculum and teaching not only in periodontics but dental education as a whole must be made if we are to prepare our students to meet the future challenges of dentistry. Dental educators can no longer sit back and be complacent and isolated from the real world.

Why then have we become so reluctant and unwilling to assess our problems and initiate change?

At a 1985 National Conference on Dental Education co-sponsored by the American Dental Association and the American Association of Dental schools, Dr. J.B. Ritchie from Brigham Young University cited a number of reasons why change is resisted. They included the following:

a) Fear of losing control
b) Lack of skill to move into new ways
c) Disagreement
d) If it ain't broke don't fix it attitude – let it die a slow death
e) Inability to determine where to begin with change
f) Bureaucratic road blocks to change
g) Too difficult to change the program or format

At the same Conference Dr. H.G. Hershey from North Carolina identified four Individual Personality Behavioural resistances to change. They are:

a) fear – fear of the outcome
b) inertia – unable to begin
c) excessive focus on self – self interest and perpetuation
d) lack of vision – inability to modify goals to current and future needs

Assessing the curriculum and teaching/learning experiences in dental schools is not a new phenomenon. Schools are constantly undergoing the tedious review processes of curriculum and implementation mechanism. Often just going through the process with little direction towards change. A recent experience of mine, involved our faculty's Curriculum Review and Implementation Retreat. Unfortunately, high morale and expectations at the beginning, led after two days, to disappointment and frustration. Much of the resistance to change earlier identified, became clearly revealed.

Perhaps, faculty, staff and administration should work together with professional consultants in curriculum and teaching. External standards established by the National Curriculum Study of 1976 and those guidelines developed by the periodontics subsections of the American Association of Dental Schools can only serve as a framework from which more detailed protocol can be developed for individual school programs.

The periodontal program must play an increasingly larger role in our schools' curricula.

As Dr. Eisner's paper so aptly put it, "Periodontics faculty are often their worst enemies." Or, to paraphrase the Poge character, who said, "We have discovered the enemy and the enemy is us." Years of isolation has built a protective shell around periodontists.

His paper has clearly identified the many problems that exist in dental education and how these can be identified in periodontal teaching. He has also reviewed the topic in depth, giving many suggestions as to how change can be implemented.

We have behaved like creatures in permanent cocoons while the other disciplines have flourished in the education environment. We must rid ourselves of this entrapment and become identified as a discipline that rightfully reflects the cornerstone of dentistry. Our teaching program must reflect this. As Dr. Eisner's paper indicated, no other discipline in dentistry is so dependent upon the behavioural sciences, the communication skills, and the management of patient treatment and maintenance.

The recommendations that resulted from our workshop discussions, are as follows.

GOAL STATEMENTS

Ultimate Goal

1) It is recommended that periodontists play their important role and hold the ultimate responsibility in teaching effective communication skills and posturing through the use of video tape monitoring and self assessment following demonstration.

2) It is recommended that periodontists introduce the team concept by involving hygienists as dental team members in preclinical and clinical programs.

3) It is recommended that periodontal faculty play a more major role in patient management by cooperative interaction with other disciplines. Work in concert with other disciplines and not place unrealistic expectations on students.

4) It is recommended that faculty administration introduce requirements for new full time staff members to take courses in teaching and learning. One such avenue is the Teaching Conference of ACFD.

5) It is recommended that division heads take an active responsibility in structured teaching methods for their part time staff.

6) It is recommended that administration give more value to teaching activities of merit during their promotion process.

7) It is recommended that faculty staff in periodontics reconsider their objectives to be more specific with "real" situations and that the evaluation process and teaching methodology be reflected by this: (ie. objectives often written to understand theory and not in area of problem solving).

8) It is recommended that teachers in periodontics consider alternative measures to lecturing.

Evaluation Process

9) It is recommended that clinical and preclinical periodontics be evaluated on the basis of the following methodology.

a) Criterion Referencing

b) Student Self Evaluation

c) Opportunity for Formative Evaluation prior to Summative Evaluation (can be student initiated)

10) It is recommended that faculty instructors both full time and part time undergo calibration training to standardize the evaluation process in preclinical and clinical evaluation.

11) It is recommended that didactic evaluation be more in the analytical and synthesis domain.

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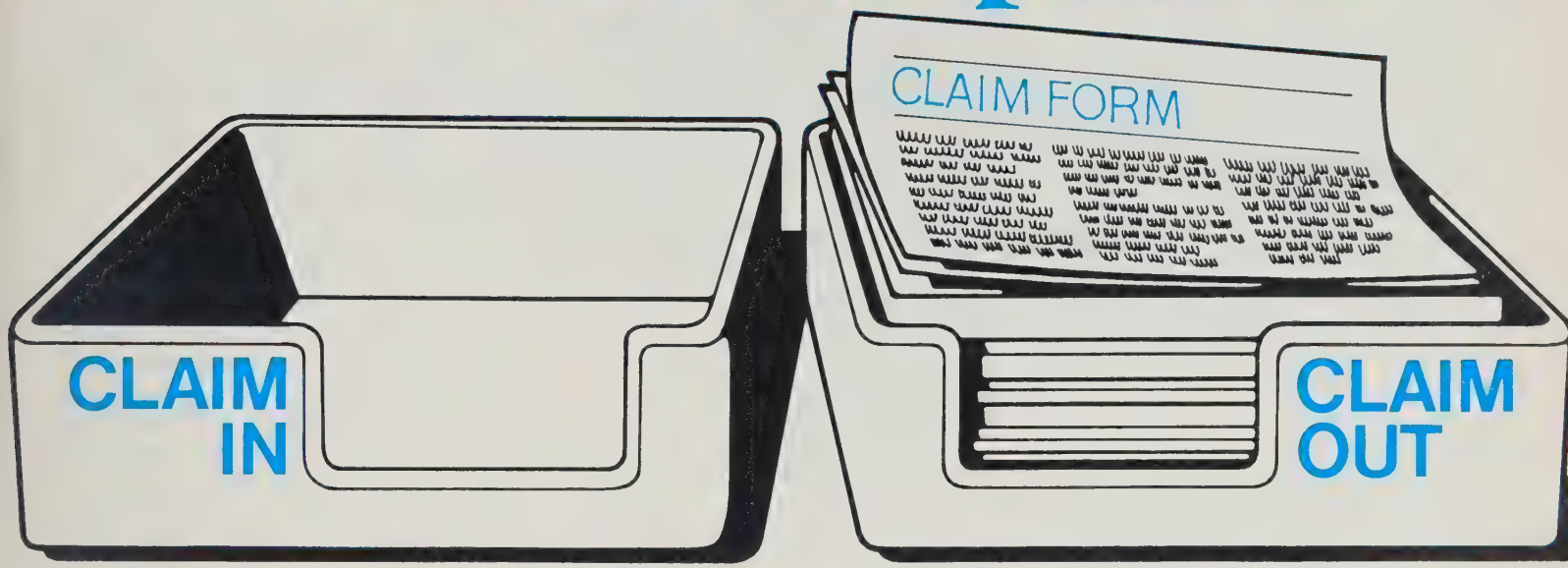

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1. Hechter, F.J. Symmetry and dental arch form of orthodontically treated patients. JCDA 44:173-184, 1978.

For books, give the author's name, book title, location and name of publisher, year of publication:

2. Kilpatrick, H.C. Work simplification in dentistry, ed. 2. Philadelphia, Saunders, 1964.13

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ORAL LEUKOPLAKIA
A CORRELATIVE STUDY

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ABSTRACT

Eighty cases from the Mouth and Mucosa Clinic, Vancouver General Hospital, were analyzed for: the type of leukoplakic lesions seen in the mouth, the areas most commonly involved, etiological factors and the correlation between clinical and histopathological diagnoses.

Analysis showed that the incidence of white lesions reaches its peak after 40 years of age and decreases later in life. Lesions were more common in females than in males. In females the buccal mucosa was more commonly involved, while in males it was the lip. Most of the lesions were benign, but 75% of the speckled leukoplakias were malignant or premalignant. Therefore, it is important to be highly suspicious of white lesions with a red granular component. Biopsy must be performed, as only histologic study can reveal the true nature of the lesion.

SOMMAIRE

À la Clinique buccale et muqueuse de l'Hôpital Général de Vancouver, on a étudié 80 cas pour déterminer les types de leucoplasies buccales, les régions les plus souvent affectées, les facteurs étiologiques ainsi que le rapport entre les diagnostics cliniques et histopathologiques.

L'analyse a révélé que l'incidence des lésions blanches est au maximum après 40 ans et décroît par la suite. Les lésions sont plus fréquentes chez les femmes que chez les hommes. Chez les femmes, c'est la muqueuse buccale qui est le plus souvent atteinte, alors que chez les hommes ce sont les lèvres. La plupart des lésions sont bénignes, mais 75 pour cent des leucoplasies tachetées sont malignes ou précancéreuses. Aussi faut-il grandement s'inquiéter des lésions blanches comportant un élément granulaire rougeâtre. Il convient d'effectuer une biopsie, étant donné que seule une étude histologique peut déterminer la véritable nature de la lésion.

Leukoplakia, one of the most common white lesions affecting adult oral mucous membranes, has long been recognized as a precancerous lesion of the mouth. The literal meaning of leukoplakia is "white plaque" and the term has been used for many years by clinicians and pathologists to describe any mucosal lesion with this appearance. Traditionally, the term has also carried implications of malignant potential. However, a number of conditions characterized by the formation of white or whitish patches on the oral mucous membranes are benign in nature, or are only occasionally associated with subsequent malignancy. Until recently the term leukoplakia has been used by some as a microscopic diagnosis for pre-malignant lesions. To avoid confusion and to have a uniform definition, the World Health Organization (WHO) defined leukoplakia in 1978 as a "white patch or plaque on the mucosa which cannot be rubbed off and which is not recognized as a specific entity".[1] It has been suggested that there should be an addition to this definition so as to exclude those lesions associated with a "physical or chemical causative agent except the use of tobacco".[2] In our paper, we are using the W.H.O.'s broader definition when referring to leukoplakia. This is purely a clinical description and does not provide any information about the histological appearance of the lesion which can vary from hyperkeratosis and acanthosis to invasive carcinoma.

In our clinic, we evaluate many patients with white lesions who are referred by family dentists or physicians. There is still a misconception among some practitioners that any white lesion in the mouth has a high rate of malignant transformation. Occasionally, even the experienced clinician will face the difficulty of differentiating one lesion from another. Lack of formal training in oral disease makes it more difficult for general practitioners to advise the patient about the true nature of the lesion. In this study of 80 patients, 33 were referred by the family dentist and 47 were referred by the family physician. Family dentists and physicians have the opportunity to examine, diagnose and manage these patients. This study was undertaken in an attempt to identify the most common leukoplakic lesions affecting our population, the way in which they appear, the areas that are most vulnerable, the accuracy with which we can predict the nature of the lesion, and the correlation between the clinical and histopathologic diagnosis.

Fig. 1. Homogenous leukoplakia. This plaque-like white lesion in the floor of the mouth is raised and fissured.

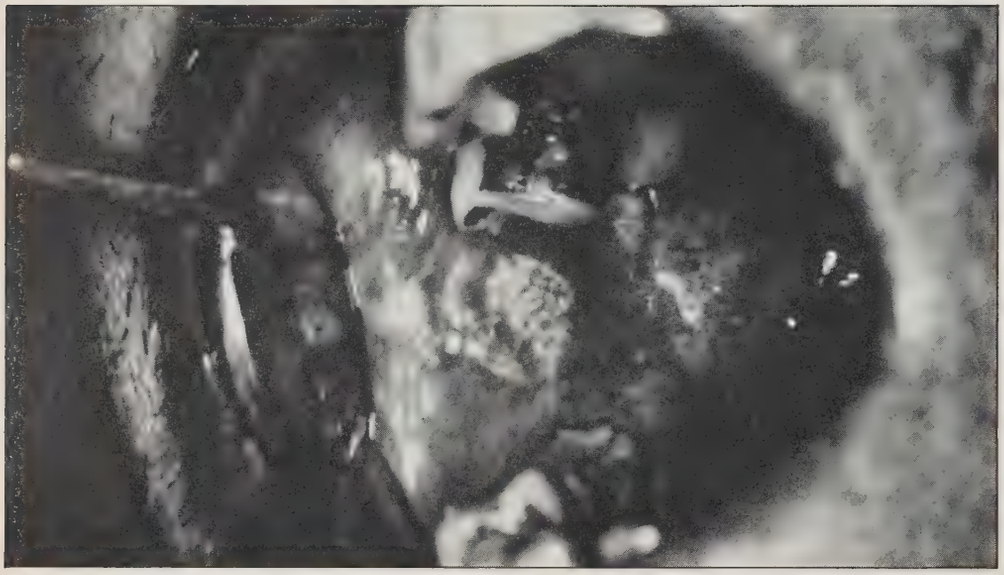

Fig. 2. Verrucous leukoplakia. This lesion is composed of several white nodules which give the tissue surface a warty appearance.

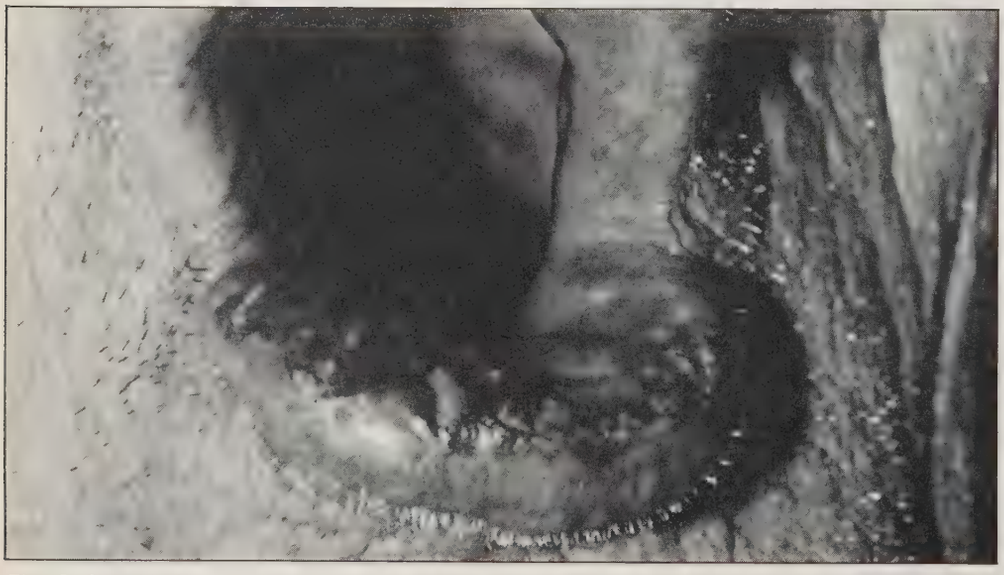

Fig. 3. Speckled or erosive leukoplakia. This lesion has both an erosive and a white component. Because of its appearance it should be regarded with a high index of suspicion.

ETIOLOGY

The etiology of most oral white lesions is uncertain, but suggested causative agents include smoking, friction, use of betel nut in India, syphilis, chronic candidosis, infection with AIDS virus, and possibly latent herpes simplex type I infection.[3-8] Other possible causes cited are poor oral hygiene, anemia, vitamin deficiencies, electric potentials between dissimilar restorative metals, endocrine disorders and food allergies.[9-12]

The most common white patch on the oral mucosa is simple hyperkeratosis. Frequently it is possible to identify a cause such as trauma or friction.[1,13] Habitual biting of the cheek may lead to a band-like area of hyperkeratosis along the occlusal line. Similarly, white patches on the mucosa of the cheek, tongue or gingiva may result from friction caused by malaligned teeth, teeth with sharp edges or ill-fitting dentures.[13-15] Several investigators have indicated that mechanical factors, either alone or in combination with other agents, may cause local irritation of the mucosa.[8,9,16,17] Leukoplakia related to such mechanical irritation is usually on the buccal mucosa, less often on the alveolar ridge, and occasionally on the hard palate. Banoczy[14] observed the occurrence of hyperkeratosis on the alveolar ridge in patients who had ill-fitting prostheses, while those who had oral leukoplakia but perfectly fitting dentures did not have any lesions on the alveolar ridge.

Leukoplakia has always been found to be closely associated with tobacco habits,[1,6,9,11] and various studies have shown that its prevalence was higher among pan and tobacco chewers with smoking habits than those who practised only chewing habits.[18,19] Investigators have demonstrated a significant increase in keratinized cells of tongue epithelium and hard palate in both male and female smokers. The development and site may be influenced to a great degree by qualitative and/or quantitative factors related to smoking habits and individual predisposition.[14,19-21]

Tobacco is not the only chemical irritant which initiates the formation of white lesions. Alcohol and mouthwashes containing alcohol are sufficiently irritating to produce leukoplakia.[22,23] Injury to oral mucosa by electric potential differences between metals has been reported by several investigators.[24] Banoczy[14] was of the opinion that large differences in electric potential may promote the malignant transformation of oral leukoplakia.

Atrophy of epithelium on the tongue and lip as a sequel to recurrent acute or chronic inflammation of the mucosa has been shown to promote the development of leukoplakia which is often serious in

nature[15]. In some parts of the world where sideropenic dysphagia (Patterson-Kelly syndrome, Plummer-Vinson Syndrome) is common, it has been found to be associated with the development of leukoplakia.[1]

Infections, especially those caused by candida albicans, have been associated with white lesions. The presence of these organisms seems to be more frequent in those lesions which are dysplastic or frank carcinoma and there seems to be a definite relationship between candida infection and speckled leukoplakia.[9,25-27] Some authors suggest that alterations in vitamin levels can cause leukoplakia. They believe that vitamin A deficiency or excess vitamin B intake may increase keratin formation.[28]

In recent years evidence has emerged that oral leukoplakia may be associated with some immunological changes.[3,29,30] An important revelation is that some leukoplakias can be caused by microbial, fungal and probably viral agents, so that immune response might play a decisive part in the development of leukoplakia and its transformation to carcinoma. It is suggested that both chemical and microbial agents related to leukoplakia might induce their effects to some extent by means of an immunological response.[8]

CLINICAL FEATURES

Leukoplakia is a condition which primarily affects older individuals, with a prevalence for the fifth and sixth decades, and is more common in males.[9,10,11,14,18,31] However, in India many cases are found in younger age groups.[32]

These lesions are characterized by the presence of a white plaque anywhere on the mucosa. It may vary from a small, circumscribed plaque to an extensive lesion involving a large area of mucosa. The appearance is variable. The surface may be smooth or wrinkled and sometimes smooth-surfaced lesions may be traversed by small cracks or fissures, giving the appearance of cracked mud. The lesions may be white, whitish yellow or grey and some appear homogenous while others show nodular white excrescences on an erythematous base.

Various authors have proposed schemes for the classification of the clinical types of leukoplakia. One classification designates lesions as homogenous (**Fig. 1**), verrucous (**Fig. 2**), or speckled (erythroleukoplakia, nodular leukoplakia) (**Fig. 3**). The speckled type is of greatest clinical importance, since it has the highest potential for malignant transformation. Clinically it consists of an erosive or erythematous component associated with white flecks or nodules. Histologically, it exhibits areas of epithelial

Fig. 4. The plaque-like nature of the lesion on the dorsal surface of the tongue suggests leukoplakia but histologically this was diagnosed as lichen planus.

Fig. 5. This patient has an area of homogenous leukoplakia in the floor of the mouth. She drinks 4 oz. of hard liquor and smokes 1 1/2 packages of cigarettes a day.

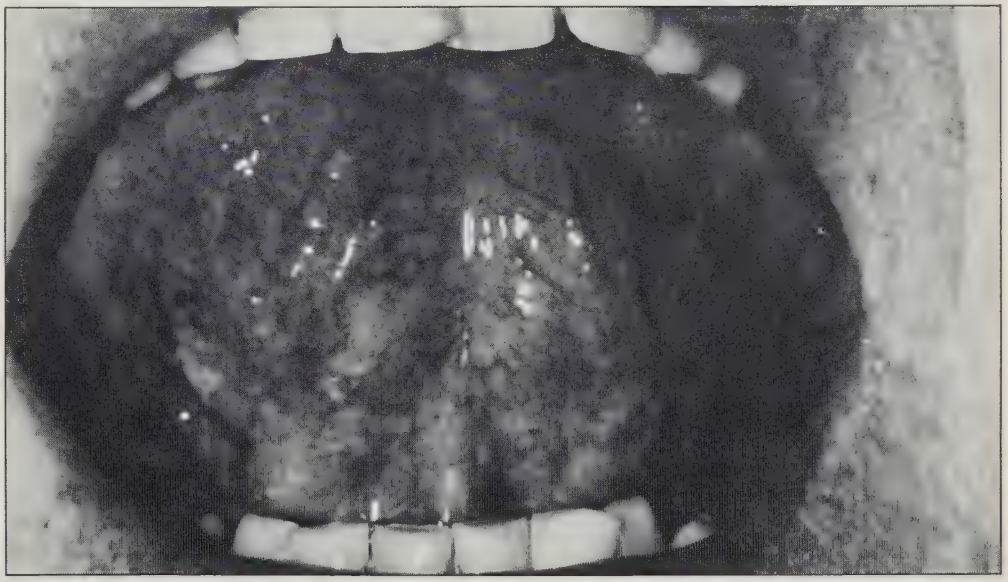

Fig. 6. The same patient as in Figure 5 after she stopped drinking and smoking. The leukoplakia has almost completely disappeared.

TABLE I

Age of Patient

Age Groups (Years)	10-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90
Male (N=40)	2	1	9	6	13	9	0	0
Female (N=40)	0	4	7	5	13	5	3	3

TABLE II

Etiological factors in patients with leukoplakia

	M	F
Smoking only	12	6
Smoking and alcohol	0	3
Local irritation + smoking + alcohol	4	2
Local irritation + smoking	3	5
Local irritation + alcohol	3	1
Smoking and snuff	2	0
Local irritation alone	6	11
No known habits	10	12
Total	40	40

TABLE III

Anatomical sites where leukoplakia noted

	N=40 M(40)	N=40 F(40)
Retromolar pad	4	2
Lip	18	2
Floor of the mouth	1	6
Buccal mucosa	8	27
Tongue	9	12
Gingiva	10	18
Palate	6	18
Total*	56	85

* Some patients had more than one lesion. Therefore, the number of lesions exceeds the actual number of patients.

hyperplasia, parakeratosis and ulceration. Usually inflammatory cells are evident within the connective tissue and dysplastic changes are often seen within the epithelium. The homogenous type may have a surface texture which is raised, fissured, wrinkled or smooth while the verrucous type consists of a coalition of several white nodules. Histologically the verrucous type often exhibits hyperparakeratosis, i.e. – excess keratin with retained nuclei and an intact basement membrane. Histology of the homogenous type is similar except that hyperorthokeratosis rather than hyperparakeratosis is often present.

METHODS

Records from the Vancouver General Hospital Mouth and Mucosa Clinic were reviewed for the years 1976-1983. Records of all patients who had been diagnosed as having leukoplakia were included in this study. A total of 80 patients (40 males and 40 females) ranging in age from 10 to 90 years, were examined.

RESULTS

An analysis of age revealed that, in both sexes, the incidence of white lesions was slight both under age 30 and over age 70, and was greatest between ages 51 and 60 (**Table I**). Eighteen patients (22.5 per cent) were smokers only. A small percentage had smoked for a short time only (six months), while the majority had been smokers throughout their adult life. The quantity of cigarettes smoked varied since few were smoking only a pack per day, while the majority smoked more than one package per day. Twenty-three patients (28.8 per cent) had several etiologic factors including smoking and drinking, smoking and snuff use, smoking and wearing ill-fitting dentures which had a traumatic effect on the mucosa, drinking and local irritation, and smoking, drinking and local irritation. Local irritation alone was suspected in 17 patients (21.2 per cent) to account for the development of white lesions. Twenty-two patients (27.5 per cent) who had no known habits also developed white lesions (**Table II**).

The number of white lesions was higher in females than in males. In our study the lip was the most common area affected in males, while in females it was the buccal mucosa (**Table III**).

These lesions did not appear in a uniform manner. Each lesion varied in size, shape and appearance. While the smallest lesion measured only 1 mm in diameter, there were lesions involving practically the entire oral cavity.

Eighty-five white lesions were examined both clinically and histopathologically. Those remaining were not biopsied because they had an apparent local irritative factor. The majority of lesions were homogenous. Five cases were clinically indistinguishable from lichen planus, and were diagnosed as leukoplakia or lichen planus (**Fig. 4**). Three cases predominantly had features of lichen planus and were so diagnosed. Since eight lesions had a speckled appearance they were diagnosed as speckled leukoplakia or early carcinoma. Four cases had the features of malignancy and the lesions were clinically diagnosed as carcinoma (**Table IV**). All these patients underwent a biopsy and the tissue was examined microscopically. **Table V** compares the clinical diagnosis with the histopathological diagnosis.

DISCUSSION

The main significance of leukoplakia to practitioner and patient relates to its malignant potential.[33] In some countries, such as India, up to half of all cancers may occur in the mouth. Despite important advances in surgery, radiotherapy and chemotherapy, mortality from oral cancer remains high.[14] There are several factors to consider when evaluating the malignant potential of a leukoplakic lesion. Age and sex of the patient can be a consideration since malignant transformation occurs most often in females over the age of 50 years.[9,34,35] In our study, the incidence of leukoplakia was greatest during the sixth decade, which correlates well with findings reported by Mehta, Banoczy and others.[9,14,32] It was surprising to note that in our study the number of white lesions was much higher in females than in males.

Clinical types of leukoplakia seem to be important in relation to malignant change, and speckled or erosive leukoplakia is more liable to malignant transformation than homogenous leukoplakia.[5,31] Even the homogenous type should be viewed with suspicion when it occurs in high risk areas in the oral cavity such as the lateral border of the tongue, floor of the mouth, ventral surface of the tongue, tonsillar pillar and soft palate. In our study, the buccal mucosa was the most common area affected in females, while in males it was the lip. Banoczy[14] also reported a similar finding. The verrucous form of leukoplakia has greater potential for malignant transformation than the homogenous type but it is not as likely to become malignant as the erosive type.[36] Because of the high rate of malignant transformation in speckled leukoplakias and the

TABLE IV

Clinical Diagnosis of Lesions Biopsied

	No.	%
Homogenous leukoplakia	52	(61%)
Verrucous leukoplakia	3	(4%)
Leukoplakia/lichen planus	5	(6%)
Lichen planus	3	(3%)
Speckled leukoplakia/ early Ca	8	(9%)
Carcinoma	4	(5%)
Miscellaneous	10	(12%)
Total	85	

TABLE V

Correlation of Clinical and Histopathological Diagnosis

Clinical		Histopathological	
Homogenous leukoplakia	52	Epithelial hyperplasia with hyperkeratosis and *no dysplasia*	51
		Dysplasia	1
Verrucous leukoplakia	3	Epithelial hyperplasia with hyperkeratosis and no dysplasia	3
Leukoplakia/lichen planus	5	Epithelial hyperplasia with hyperkeratosis *and no dysplasia*	3
		White sponge nevus	1
		Non-specific	1
Lichen planus	3	Epithelial hyperplasia with hyperkeratosis and *no dysplasia*	1
		Lichen planus	2
Speckled leukoplakia/early Ca	8	Epithelial hyperplasia with hyperkeratosis *and no dysplasia*	3
		Ca in situ	1
		Dysplasia	3
		Infiltrating carcinoma	1
Carcinoma	4	*Squamous cell* carcinoma	2
		Dysplasia	1
		Epithelial hyperplasia with hyperkeratosis and no dysplasia	1

low malignant potential of purely white lesions, the former might be better referred to as speckled erythroplakias.

The relationship of leukoplakia to carcinoma is not in doubt; malignancy does follow in a proportion of cases. Although older literature shows malignant transformation rates as high as 30%, recent authors show a much lower incidence.[34,37] In general, it is clear that the great majority of white lesions of the oral mucosa show no epithelial changes other than hyperkeratosis, parakeratosis or acanthosis; only a minority show dysplasia. From the practical standpoint with regard to oral lesions, it seems reasonable to take the view that a minor degree of epithelial atypia, particularly associated with conditions such as lichen planus or candidiasis, need not be alarming. When the changes are more severe and are associated with possible carcinogenic agents such as heavy smoking and drinking, the lesion should be regarded as premalignant. When local irritants are present, it is important to minimize them by eliminating smoking, and to remove irreparable teeth, and replace faulty metallic restorations and/or bridges. It is worth mentioning that some of our patients did benefit from the removal of local causative factors (**Figs. 5 and 6**). If the lesion persists in spite of the elimination of etiological factors or if no factor can be identified, the area should be completely removed whenever possible. When it is too large to be removed in toto, it should be biopsied at regular intervals or treated with cryotherapy.[38] The CO_2 laser may be useful in treating sublingual keratoses.[39] Daily systemic intake of vitamin A has been found to produce improvement.[40] Mycostatin therapy is sometimes effective in changing speckled leukoplakia to homogenous leukoplakia, with an associated reduction in dysplastic cells.[27] Regular follow-up is required for patients with persistent leukoplakia, and periodic follow-up of surgically removed or healed lesions is also required because of recurrence.

CONCLUSION

Eighty cases from the Mouth and Mucosa Clinic were analysed and the incidence of white lesions was found to be maximal during the sixth decade. White lesions were found more often in females than in males. The lip was affected more commonly in males while in females it was the buccal mucosa. In the majority of cases, predisposing factors such as smoking, the use of snuff and ill-fitting dentures were evident. In some cases no etiological factors could be found. While the majority of lesions were harmless, 75 per cent diagnosed as the speckled type proved to be malignant or had malignant potential. Certain uncommon oral lesions like the wart should be submitted for histopathological examination to rule out the presence or absence of malignancy. Local irritating factors, if any, should be eliminated. Habits such as smoking and drinking should be discouraged and, if possible, stopped completely.

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ORAL LYMPHANGIOMA

REPORT OF A CASE IN AN ADULT

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ABSTRACT

Current investigations suggest that the lymphangioma is a developmental rather than a neoplastic lesion of the lymphatic system, and that it may have a spectrum of histologic features depending upon its anatomic location. Chronic infection and fibrosis may alter the clinical features of a persistent oral lymphangioma occurring in an adult. In such cases, a representative biopsy is essential in the determination of the specific diagnosis.

SOMMAIRE

D'après les dernières recherches, le lymphangiome serait un désordre du système lymphatique de caractère congénital plutôt que néoplasique. Dépendant de l'endroit où il se trouve, il peut présenter divers facteurs histologiques. Chez l'adulte, une infection chronique et la fibrose peuvent modifier les caractéristiques cliniques d'un lymphangiome buccal persistant. Dans ce cas, il faut effectuer une biopsie pour poser un diagnostic précis.

Lymphangioma is a comparatively rare lesion of the lymphatics which is most often seen in children. The cavernous form of the lymphangioma is the type most frequently observed in the oral cavity. Although the lymphangioma is considered a benign lesion, cavernous lymphangiomas are noted for their local invasive tendencies involving infiltration of adjacent muscles and contiguous tissues.

The following case of cavernous lymphangioma of the floor of the mouth presented clinically as an intra-oral malignancy in an adult.

CASE REPORT

A 23-year-old male Canadian Indian presented with a complaint of an increasing lump in the front part of his tongue (**Fig. 1**) which had been present for at least 9 months. In additon to this mass, the oral surgeon noted that a verrucous, fungating, fixed firm mass (**Fig. 2**) was present throughout the entire anterior floor of the mouth. The right and left submandibular lymph nodes were firm and tender to palpation. A tentative clinical diagnosis of squamous cell carcinoma was made, and a representative biopsy of the floor of the mouth obtained.

The histopathologic examination revealed a mass of dense fibrous connective tissue covered by a layer of parakeratinized stratified squamous epithelium of irregular thickness. Numerous thin walled endothelial lined spaces and channels containing a proteinaceous exudate (**Fig. 3**) were present within the epithelium, immediately beneath the epithelium, and throughout the fibrous connective tissue. Accessory salivary gland acini with an associated chronic inflammatory cell infiltrate (**Fig. 4**) were present in the deep margins of the specimen. There was no evidence of malignancy in the submitted tissue sections. The histopathologic diagnosis was lymphangioma and chronic sialiadenitis of the anterior floor of the mouth.

Being aware of the locally infiltrative nature of such lesions and the danger of compromising major anatomical structures and functions if a total excision was performed, the surgeon elected to carry out a careful debulking of the tumour mass from the tongue and floor of the mouth. This was performed as a hospital admission under general anaesthesia. There were no postoperative complications or respiratory problems during or after surgery.

A macroscopic examination (**Fig. 5**) of a section from the floor of the mouth revealed that the lesional tissue had a cystic framework. The microscopic study had similar findings to those of the biopsy specimen. An interesting feature was that the lymphangiomatous tissue extended to the deepest margin of the surgical specimen, indicating that the tumor had not been completely excised.

Repeated attempts to arrange post hospital discharge assessments have been unsuccessful.

DISCUSSION

Lymphangiomas are believed to arise by the sequestration of parts of the developing lymphatic systems,[1] or to result from congenital obstructions of local areas of lymphatic drainage.[2] Whatever the reason, failure to unite with a venous or lymphatic

collecting system results in separate islands of lymphagenous tissue which are the precursors of lymphangiomas.[3] The confusion surrounding the pathogenesis of lymphangiomas has resulted in such lesions being characterized as congenital malformations, angiectases, hamartomas or benign tumours.[3] Batsakis and Rice[3] consider them to be "hamartomas arising in embryonic sequestra". The anterior location of the majority of tongue lymphangiomas supports a histogenesis from lymphatic tissue within the lateral lingual swellings of the mandibular arches and tuberculum impar, which give rise to the anterior two-thirds of the tongue.[3]

Lymphangiomas are generally seen in children – 50-60 percent being present at birth and 80-90 per cent detected by the end of the second year.[2] Less than 10 per cent of lymphangiomas occur in adults[4] but a second incidence peak has been recorded among 15-30 year olds,[3] and at least one case has been reported in a 37-year-old.[5] Both sexes are equally affected and there has been no report of malignant transformation[6] within this benign lesion.

A series of 152 benign neck tumours listed only four lymphangiomas.[1] An incidence of five lymphangiomas per 3,000 admissions to a pediatric hospital has been recorded.[2] Although lymphangiomas are considered to be rare tumours, 70 per cent occur in the head and neck area – the neck, face, tongue and floor of the mouth being common locations.[6] Less frequent oral sites are lips, palate and gingiva.[7] Macroglossia, macrocheila and malocclusion with speech and masticatory deficiencies[8] may be consequences of oral lymphangiomas. The enlarged tongue may be covered on the anterior dorsal and ventral surfaces with irregularly sized grape-like vesicles,[3] which may be clear, red or purple.[5] As a result of trauma, inflammation and subsequent fibrosis, superficial lesions may become firm and nodular.[8] The present case demonstrated lingual vesicles and induration. The sequestration of lymphangiomas with separation from normal venous or lymphatic drainage channels makes them prone to fluid accumulation and apparent rapid enlargement, especially when superficial lesions become traumatized or infected.[2,9] This patient was aware of a definite increase in the size of the tongue mass which was, in fact, the main presenting symptom.

Fig. 1. Anterior tongue mass with multi-lobulated appearance.

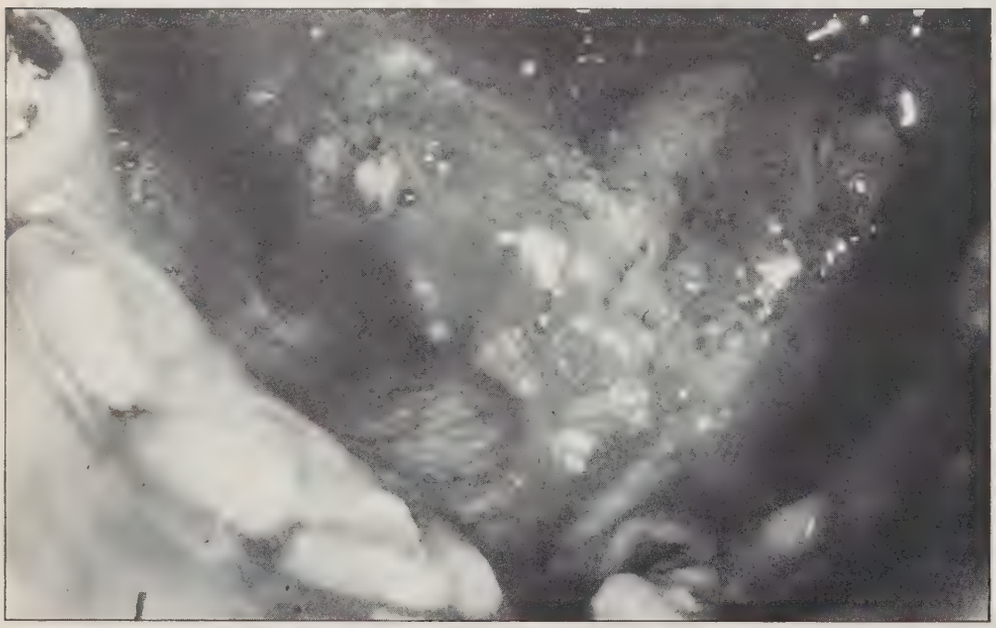

Fig. 2. Anterior floor of mouth exhibiting a raised lobulated appearance with ulceration on left hand side.

Lymphangioma is the general name for three morphologic forms of this lesion:

Capillary lymphangioma: This is a small lesion with a superficial position consisting of a network of thin-walled capillary-sized lymphatic channels. Most authorities consider such lesions insignificant; however, it has recently been suggested that they may occur on the alveolar ridges of neonates and be misdiagnosed as eruption cysts, mucoceles, Epstein pearls or Bohn's nodules.[10]

Cavernous lymphangioma: This entity occurs in skin and subcutaneous tissues, with the tongue, buccal mucosa and lips being the most frequent locations in the head and neck area.[2] The lesion consists of multiple dilated lymph channels which are usually lined by a single layer of endothelial cells. The clinical presentation is that of a diffuse, spongy compressible mass with an indefinite border.[1]

Cystic lymphangioma (hygroma): This is the most common form of the disease. It is located in the neck, but has been found in the axilla and retroperitoneum.[1] The histological features consist of numerous thin-walled endothelial lined cysts which may vary in size from a few millimeters to several centimeters in diameter.[2] The normal clinical presentation is that of a large, loculated, compressible mass in the neck. The lesion may cause expansion of the overlying superficial structures or extend into the deeper structures of the neck and mediastinum.[2]

Earlier literature emphasized the clinical, histological and behavioural differences between the cavernous lymphangioma and cystic hygroma.[11,12] Originally, the individual forms of lymphangioma were differentiated by histological features. However, the reliability of this method has recently been questioned.[3] Bill and Sumner[2] employed definite macroscopic and microscopic criteria in their study of

lymphangiomas. Out of 61 lesions, 23 consisted entirely of cystic structures and the investigators diagnosed them as cystic hygromas. No macroscopic or microscopic cysts were present in 21 lesions which Bill and Sumner considered to be true lymphangiomas. The remaining 17 tumours had elements of the cystic and lymphangiomatous forms. Thus the more current literature adopts a unified rather than a separate concept of the varieties of lymphangioma[2,3] and suggests that the lesions are basically similar, with the morphologic varieties being related to the anatomic site of the individual lesions.

The relatively common occurrence of the two varieties in the same lesion[2] adds evidence to the philosophy that the morphological forms are examples of the physical spectrum of the entity. Interestingly, in Bill and Sumner's review,[2] the cheek and tongue lesions were entirely lymphangiomatous, while the majority of the lesions in the floor of the mouth were of the mixed variety.

The present case, with its macroscopic cystic spaces, adds support to the floor of the mouth being the most common oral site for the combination of cavernous lymphangioma and cystic hygroma.

The cystic hygroma is associated with few recurrences because it is normally located in loose fatty tissues within defined tissue planes, which are more amenable to complete removal of the lesional tissue without involving major structures.[2]

The importance of differentiating between the forms of lymphangioma is related to the generally accepted higher recurrence rate of cavernous lymphangiomas upon surgical removal, compared to the recurrence rate of cystic hygromas.[2,11,12] The cavernous lymphangioma, as aptly illustrated by the present case, has a tendency to be situated between muscle fibres and around neurovascular elements, thus adopting an intimate relationship with the site of location. Bill and Sumner are of the opinion that the lesion has not actively invaded these structures, but that the dilated lymphatics represent pre-existing channels where normal drainage has been congenitally blocked. Consequently, complete removal would necessitate loss of a major portion of the site of location. Total excision of a tongue or cheek is fraught with functional and social consequences. Thus, the normal surgical treatment has been to reduce the size of the lesion, with the realization that incomplete eradication might necessitate additional treatment.[2]

Oral lymphangiomas have been treated by surgical excision,[2,9,12] radiation, electrodesiccation and radium implants,[13] and more recently, by carbon dioxide laser.[14] However, the recommended treatment is to perform, if possible, an initial total excision, to be followed by repeated partial excisions if required.[2,11,13] Complete excision may be impractical if it would destroy vital anatomical structures. A recent case report suggests that a partially excised lymphangioma has not "recurred" during a four-year follow-up.[4]

The clinical signs of the present case which occurred in an adult included a rapidly expanding, ulcerated, indurated lesion of the floor of the mouth, with local lymphadenopathy. On this basis, a provisional clinical diagnosis of oral malignancy was made. The histopathologic examination of an incisional biopsy revealed the nature of the lesion. Subsequent questioning of the patient, who was a poor historian, indicated that a portion of a similar lesion had been removed four years previously and that he had been born with a tumour although he was not aware of its location. It is feasible

Fig. 3. Cross-section of a lobule from the floor of the mouth revealing the superficial location of the endothelial lined spaces. (H & E × 40).

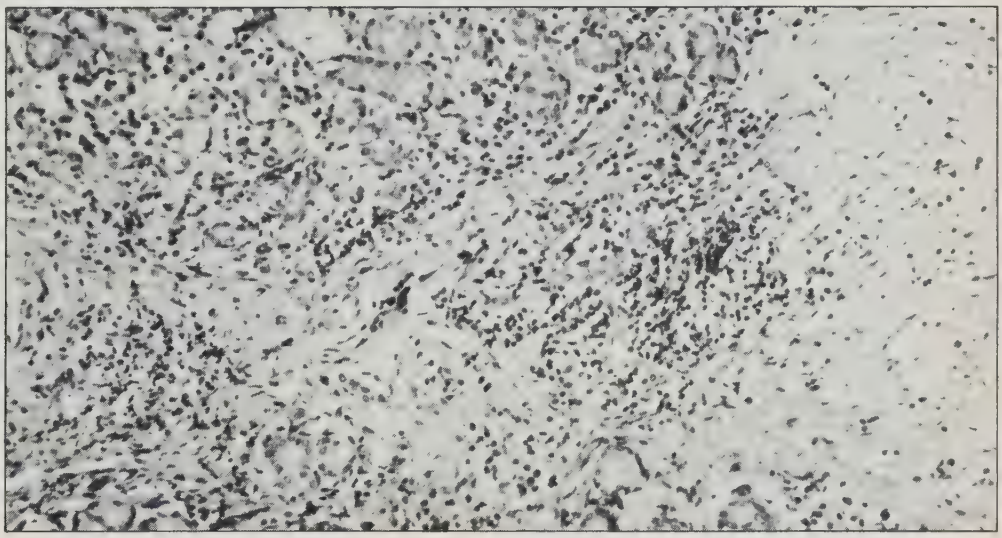

Fig. 4. Biopsy, floor of mouth showing accessory salivary gland acini, chronic inflammatory cell infiltrate and fibrosis (H & E × 200).

Fig. 5. Surgical specimen, floor of mouth, demonstrating the multi-cystic nature of the lesion.

to postulate that the current lymphangioma might have been present since birth and undergone previous treatment.

The pathologic examination of the surgical specimen demonstrated the presence of macroscopic cysts and microscopic dilated lymphatic channels. According to the criteria of Bill and Sumner,[2] the lesion represents a combined cavernous lymphangioma and cystic hygroma. It was found to extend between skeletal muscle bundles with lesional tissue being present in the deep margins of the specimen. Consequently, the lesion might persist and require additional surgery.

SUMMARY

The clinical appearance and management of a lymphangioma in the floor of the mouth of an adult has been presented, and the classification, clinical significance and pathogenesis of lymphangiomas have been discussed. A correlation has been established between the pathogenesis, histology and clinical behaviour of the lesion and it is suggested that the varieties of lymphangiomas represent different manifestions of the same entity. Lymphangiomas are considered to represent development anomalies rather than neoplastic growths. Nevertheless, their management requires careful assessment, surgical skill and, inevitably, repeated excisions.

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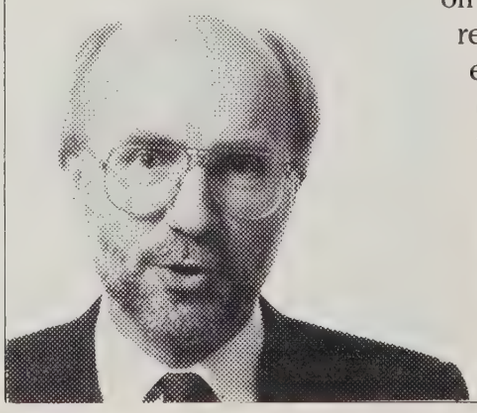

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COMPARISON OF QUALITY OF COMPLETE DENTURES FABRICATED BY PROFESSIONAL AND NON-PROFESSIONAL PERSONNEL

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ABSTRACT

As part of a broader study, a sample of 53 complete denture wearers who were ambulatory and living in the community were interviewed and the quality of their existing dentures was assessed both subjectively and objectively. Following data collection, they were contacted by telephone to ascertain whether their current dentures were made by a dentist or non-dentist. The data was retrospectively analyzed to determine if differences could be identified in the quality of dentures based upon provider. A trend to improved quality in some parameters was observed in the dentures made by the non-dentist group. However, there were no significant differences in the overall quality of the dentures fabricated by either group.

SOMMAIRE

Dans le cadre d'une étude plus vaste, on a interrogé 53 personnes portant des prothèses complètes et ayant une vie normale afin d'obtenir une évaluation tant subjective qu'objective de la qualité de leurs prothèses. Après avoir recueilli des données, on leur a téléphoné pour vérifier si, oui ou non, c'était un dentiste qui avait fabriqué leurs prothèses. On a ensuite procédé à une analyse rétrospective des données pour voir si, dépendant du fournisseur, on pouvait déceler des différences dans la qualité des prothèses. Pour celles qui n'avaient pas été fabriquées par un dentiste, on a noté que la qualité tendait à être meilleure sur certains points. Toutefois, dans la qualité des prothèses des deux groupes en général, il n'y avait pas de différences appréciables.

INTRODUCTION

In the last 25 years dentists in each Canadian province have vigorously although unsuccessfully opposed the establishment of direct-to-the-public sales of dental prostheses by non-professional personnel. This non-professional group is referred to as denturists, dental mechanics, denture therapists or denturologists. They are legally allowed to provide and fit removable dental prostheses in all but two provinces and one territory in Canada.[1] The prosthetic services they are allowed to deliver and the degree of independence which they enjoy vary widely from one province to another (**Table 1**).

Justin A. McCarthy

The mechanical work of making a denture is only a small part of the total skill necessary and therefore denturists are viewed as unqualified practitioners.[2,3] Few dentists believe that the education received by the denturist group is adequate to provide complete dentures.[4] Dentists argue that they are better equipped for treatment planning and design of the denture. As the number of complete denture wearers continues to decrease, those left will be primarily elderly. Therefore, the recognition of abnormalities or underlying systemic conditions which might compromise oral tissues or necessitate pretreatment is important for this population group. Such proper oral diagnosis before fabrication is a conern, especially in provinces where oral health certificates are not required before treatment by a denturist (**Table 1**).

During the course of another study of 53 ambulatory and community-dwelling elderly denture wearers, it was realized that many of the subjects' existing dentures were made by non-professionals (although not necessarily in Canada). Comparisons between the groups (professional and non-professional) regarding the quality of dentures fabricated are not readily available.

Therefore, this paper describes a study which attempted to assess, retrospectively, operator effect on the quality of complete dentures.

Methods and Materials

The sample population consisted of 53 ambulatory community-dwelling elderly. Age and sex distribution are shown in **Table 2**.

The subjects were a volunteer group drawn from three major sources: (1) individuals from a random sample identified during provincial aging surveys in 1983 and 1985 who had indicated a willingness to participate in further research, (2) a senior citizen activity centre, and (3) an elderly persons housing facility in the Winnipeg area. The sample was primarily non-patient; that is, none of the subjects was seeking treatment.

The study consisted of two components, (1) a personal interview, and (2) a clinical examination. The interview provided: (i) informed consent, (ii) demographic and dental health history data, and (iii) a subjective evaluation of the existing dentures. Subjects were asked to rank their dentures as excellent, adequate, or poor for each of the following parameters: (i) ability to chew, (ii) fit, (iii) comfort, (iv) appearance, and (v) speech. Ordinal values were assigned to each quality category with a maximum possible total score of 10 (**Table 3**).

The clinical examination consisted of evaluation of the functional adequacy of the dentures. The parameters and the quality categories used during the clinical examination are shown in **Table 4**. Retention and stability of each denture were assessed by evaluating resistance to a series of vertical and lateral forces according to the criteria described by Kapur.[5] Vertical dimension, phonetics, peripheral extension, occlusion and esthetics were assessed according to conformity with accepted prosthodontic standards. Ordinal values were assigned to the various quality categories. A cumulative point total (maximum 18) was used as an indicator of overall denture adequacy.

Retrospectively, the operator responsible for fabrication of the existing dentures was determined by telephone interview as either (1) dentist or (2) non-dentist. The investigators were unaware of this information at the time of the clinical examination.

Results

Of the 53 subjects interviewed and examined, 48 responded with information concerning the provider of their existing prostheses. Twenty (47.2 per cent) had their dentures constructed by a dentist.

The age and sex distribution of the sample population is shown in **Table 2**. It was determined that there were no sex-linked differences with respect to subject satisfaction with the quality of their dentures. Chi-square analyses were performed to determine if differences in the subject and clinical evaluation scores were significantly associated with the denture providers.

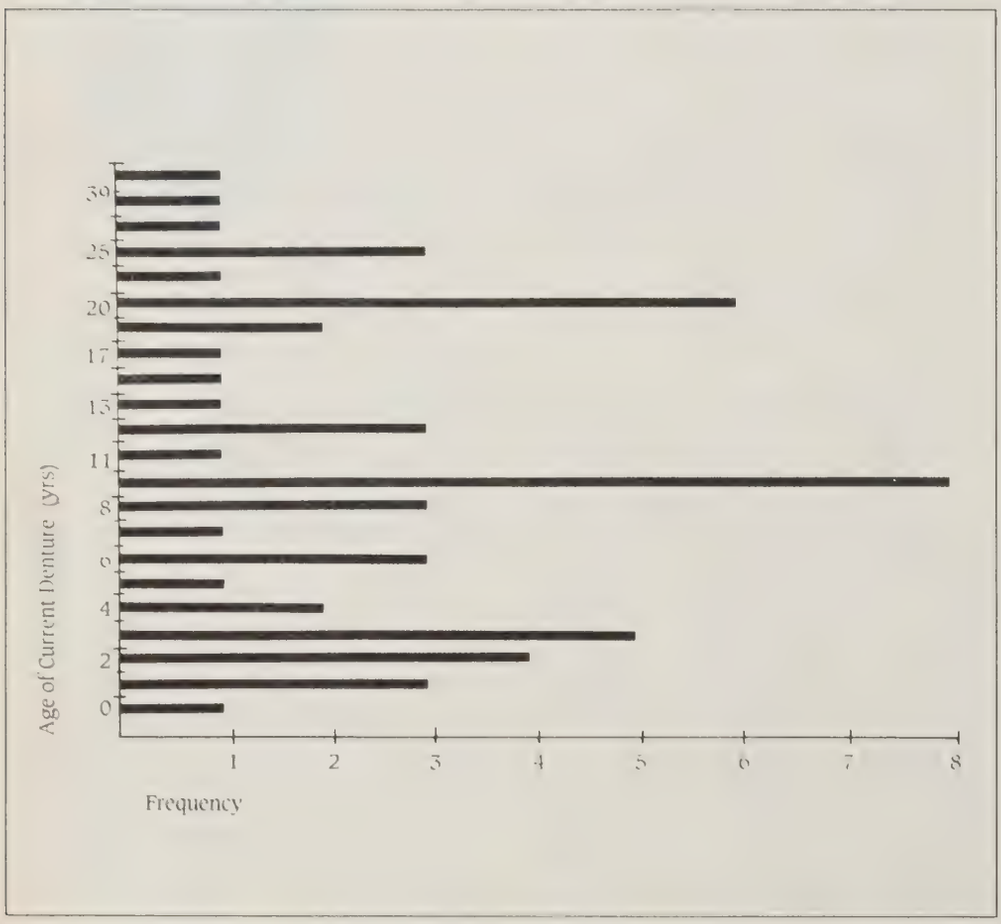
In the first series of analyses each evaluation parameter (**Tables 3** and **4**) was subgrouped according to provider. None of the subjective ratings showed any provider bias. In the objective rating, esthetics showed an almost significant ($p < 0.059$) distribution in favour of the non-professionals. Similarly, when phonetics were analyzed, the distribution tended to favour the non-professional ($p < 0.065$). One-way analyses of variance were then performed to determine if associations existed between provider and the total denture scores in both objective and subjective domains and between provider and the age of the existing dentures. It was found that the dentist-constructed dentures were significantly older (mean age 16 years versus nine years, $p < 0.01$).

In the original chi-square analyses several of the criteria groups were subdivided into the three categories of poor, adequate and excellent. It appeared that in several instances this three-way grouping may have been obscuring trends that would be more obvious if the categorization was simplified. Consequently, these values were regrouped into a binomial distribution of acceptable (adequate, excellent, firm, correct, etc.) and unacceptable (poor, slight or none, incorrect, etc.) and the data resubmitted for chi-square analyses. None of the differences was significant.

Figure 1 shows the frequency distribution of age of the dentures. Dentures were then grouped by age (<5;6-10; 11-20; >21 years) and chi-square analyses were

FIGURE 1

The age and frequency distribution of current dentures worn by subjects at time of examination



again employed to examine for differences between providers according to denture age, while controlling for denture stability, phonetics and vertical dimension.

The category "slight" (versus "firm") vertical stability of the mandibular denture was significantly ($p < 0.014$) more prevalent in the older denture age groups made by dentists, whereas in the younger (< 10 years) denture age groups, those dentures exhibiting "slight" vertical stability were all made by non-dentists.

As with the earlier chi-square testing, it appeared as if the multiple grouping may be obscuring rather than clarifying trends. Therefore the data were re-grouped to provide 2 × 2 contingency tables for provider and denture quality (acceptable or unacceptable) in each category of vertical dimension, phonetics and stability for dentures up to 10 years old.

Exact probability tests indicated that with respect to phonetics the non-dentist-made dentures had a higher prevalence of acceptable ratings that approached significance ($p < 0.09$). In the category of "firm" (versus "slight") vertical stability of man-

TABLE 1

Summary of Canadian Statutes which allow nondentists to provide Prosthetic Care++

	Alberta	British Columbia	Manitoba	New Brunswick	Nova Scotia	Ontario	Quebec	Saskatchewan
Year Enacted	1961	1958	1970	1976	1973	1974	1973	1977
Independent Practice	Yes	Yes	Yes	Yes	Yes	Yes[1]	Yes	Yes
Oral Health Certificate Required	No	Yes	Yes	No	No	No	Yes	No
Prosthetic Services Allowed*	C	C	C[2]	C	C	C[1]	C	C
Title of Provider	Denturist	Dental mechanic	Dental mechanic	Denturist	Denturist	Denture therapist	Denturologist	Denturist

*C = complete upper and lower denture

1. Ontario law provides for the practice of both supervised and unsupervised denture therapy; denture therapists may provide partial dentures under the direct supervision of a licensed dentist.

2. Law allows dental mechanics to provide partial dentures to patients who have a written prescription from a dentist.

++ Reproduced and modified from the Status Report on the Delivery of prosthetic Care by NonDentists in the US and Canada. Council on Prosthetic Services and Dental Laboratory Relations. The American Dental Association, 1984, p. 19.

TABLE 2

Age and Sex Distribution

	Males	Females
Number	18	35
Mean Age (±sd) (yrs)	73.5 (± 5.3)	73.4 (± 7.2)
Age Range (yrs)	64-82	60-88

TABLE 3

Subject Evaluation of Denture Satisfaction (%)

Parameter	Category		
	Excellent (2)*	Adequate (1)*	Poor (0)*
Ability to Chew	36	45	19
Appearance	28	57	15
Speech	47	43	10
Fit	32	28	40
Comfort	43	40	17

*Ordinal values assigned to categories in each criterion.

TABLE 4

Clinical Evaluation of Dentures

Parameter	Category (%)		
Esthetics	Poor (0)*	Adequate (1)*	Pleasing (2)*
	28	59	13
Retention	None (0)	Slight (1)	Firm (2)
Maxillary	6	21	73
Mandibular	83	13	4
Stability		Slight (0)	Firm (1)
Lateral – Maxillary		42	58
– Mandibular		76	24
Vertical – Maxillary		32	68
– Mandibular		36	64
Occlusion (CO-CR)	> 1 mm (0)	0-1 mm (1)	CO=CR (2)
	27	13	60
Vertical dimension (Free Way Space)	> 3 mm (0)	Contact (0)	0-3 mm (2)
	43	2	55
Phonetics	S/Sh or Contact (0)		Adequate (2)
	41		59
Extension	Under or Over (0)		Correct (2)
	32		68

*Ordinal values assigned to each category.

dibular dentures, again the non-dentist-made dentures had a higher frequency that approached significance ($p < 0.09$). Regression analysis between subject and denture age indicated a slight but significant negative correlation ($r = -0.24, p < 0.043$).

Discussion

The authors have demonstrated previously that subject satisfaction of dentures tends to agree with an objective evaluation.[6] However, subject satisfaction was not related to the type of provider. When the objective parameters were evaluated there was a general tendency for dentures constructed by non-dentists to be superior to those constructed by dentists with respect to esthetics and phonetics, but when total denture scores were evaluated no significant differences existed. The fact that the dentures made by dentists were considerably older than those made by non-dentists required special consideration in the data analysis. It would be expected that older dentures would exhibit inferior ratings in several parameters. However, when the data were re-categorized and when denture age differences were considered, the only trends to approach significance were in favour of the non-dentist providers and these criteria were again related to phonetics and also to vertical stability of the mandibular denture.

As subject age increases it is expected that increased alveolar bone resorption would contribute to decreased stability, greater loss of occlusal vertical dimension and a decreased phonetic rating. Thus the dentures made by dentists, being on average seven years older, might perform poorly in comparison. However, the statistical data did not support that hypothesis and there was a tendency for the reverse to apply; viz., that the non-dentist-made dentures may have been more acceptable in several parameters.

It was also considered likely that the older subjects may have had the older dentures; again increasing the likelihood that the dentist-made dentures may appear to suffer in comparison. The slight but significantly negative correlation coefficient precluded this as a biasing factor. Another factor that may have accounted for lack of, or masked the presence of, real differences between dentures made by dentists and non-dentists was also related to the age of the dentures: dentures more than 10 years old may have deteriorated, or the intra-oral conditions changed, so dramatically as to preclude making proper comparisons. As a result, the 2×2 contingency tables were constructed to evaluate and compare dentures 10 years old or less. Again the differences were not significant, but the trend was in favour of non-dentist-made dentures.

Conclusions

The parameters of this study were limited to a comparison of clinical and subject evaluation of denture quality at the time of examination. The problems associated with lack of adequate diagnosis and treatment planning on the part of non-professionals were not addressed.

The retrospective nature of this study imposes several limitations upon conclusions that can be made. The quality of existing dentures can be modified greatly by the level of maintenance provided. The interactive effects of systemic health, physical age, denture quality and the condition of the sub-denture tissues also may influence both subject and clinician evaluation of denture quality. These factors must be given due consideration in the overall question of direct patient treatment by non-professionals.

The object of this retrospective study was to evaluate and compare the quality of complete dentures made by professional and non-professional personnel and to report the results. The literature appears to be lacking in reports of this nature. It is not within the scope of this paper to moralize, adjudicate or recriminate. We do however, recommend that further evaluative studies be undertaken. If the results support our findings of little, if any, real differences in quality, then the profession may need to re-evaluate its stand on certain issues, including bringing to bear its considerable influence on curriculum development and implementation at all levels, viz., undergraduate, graduate, postgraduate and continuing education.

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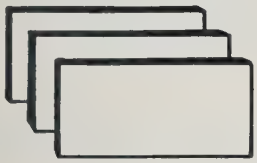

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SIDA
CAS DIAGNOSTIQUÉ À PARTIR DE
MANIFESTATIONS BUCCALES

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RÉSUMÉ

Le Syndrome d'immunodéficience acquise est une condition qui revêt une importance fondamentale pour la profession dentaire, car, outre les risques auxquels ils sont exposés professionnellement, les dentistes peuvent jouer un rôle de tout premier ordre dans le diagnostic et la reconnaissance précoce de la maladie.

Les auteurs rapportent un cas de Sida qui, possiblement à cause de l'origine ethnique du patient, a été faussement diagnostiqué comme un scorbut gingival. La physiopathogénie et les récents critères de diagnostic sont revus, et une attention particulière est portée aux manifestations orales et à la démarche clinique.

ABSTRACT

The Acquired Immunodeficiency Syndrome is a condition which has a fundamental importance for the dental profession because besides the risks to which dentists are exposed professionally, they can play a vital role in the early diagnosis and identification of the disease.

The authors report on a case of AIDS which perhaps because of the patient's ethnical origin, was wrongfully diagnosed as a gingival scurvy. The physiopathogenesis and the recent diagnosis criteria are revised, and particular attention is given to the oral manifestations and the clinical approach.

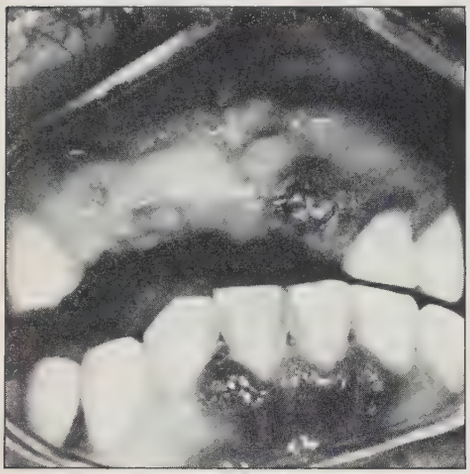
HISTOIRE DE CAS

Il s'agit d'un patient de 27 ans, d'origine indienne, qui est référé en clinique de médecine buccale pour l'évaluation de lésions gingivales. Les lésions, qui correspondent cliniquement à de multiples foyers d'hyperplasie rouge-violacés, sont présentes depuis plus de six mois et s'accompagnent d'un fréquent saignement au brossage. Au moment de la consultation, le patient est traité pour un présumé scorbut par vitamine C, et de récentes cultures gingivales se révèlent positives pour le Candida Albicans. Le début de la symptomatologie buccale semble avoir coïncidé avec l'apparition de polyadénopathies cervicales pour lesquelles les investigations initiales s'étaient avérées négatives. Les lésions gingivales s'étaient par la suite progressivement détériorées, et ces derniers temps, le patient signalait la présence d'une anorexie intermittente et d'une asthénie modérée, sans autre symptôme constitutionnel.

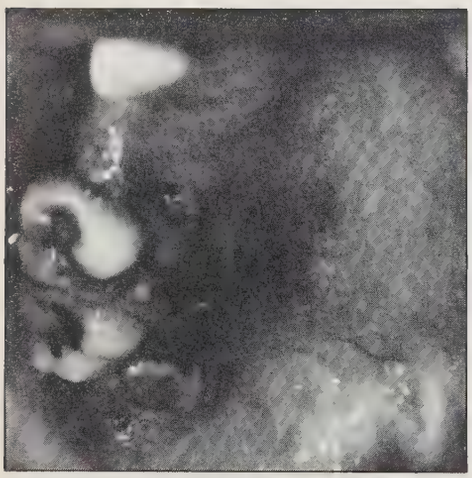
Une revue approfondie des systèmes révèle la présence d'une toux productive chronique et d'une importante douleur abdominale apparue quelque deux semaines après une récente appendicectomie. Pour le reste, cette revue s'avère négative, sans histoire en particulier de diarrhée chronique, d'infection muco-cutanée ou de troubles neurologiques. Les antécédents médicaux comprennent les notions d'appendicectomie récente, d'amygdalectomie et d'ictère en bas âge. Du côté des habitudes, il est possible de noter que jusqu'à récemment, le patient fumait deux paquets de cigarettes par jour, buvait environ vingt-quatre bières par jour et consommait occasionnellement du haschish. En aucun moment, il n'a fait usage de drogue intraveineuse ou reçu des transfusions sanguines. Fait important, cependant, il a eu huit relations homosexuelles avouées avec partenaires différents au cours des neuf dernières années, par pénétration orale et rectale. Signalons enfin que le patient est marié, père de deux jeunes enfants, et qu'il entretient des rapports sexuels réguliers avec son épouse.

L'examen de la cavité buccale révèle la présence de nombreuses macules et nodules rouges violacés, parfois nécrotiques, intéressant principalement les gencives et le palais dur et mou (**diapos 1 et 2**). Une lésion de leucoplasie pileuse est visible sur

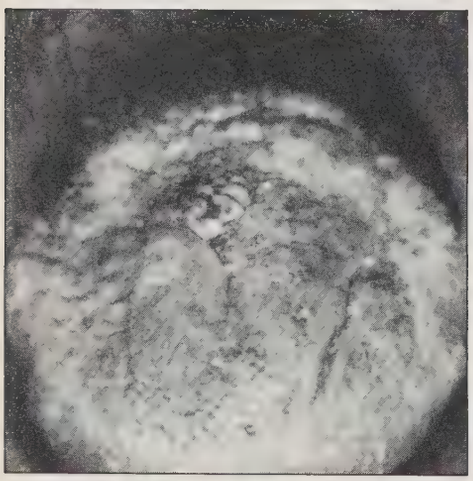
la surface latérale gauche de la langue, et de nombreux nodules sous-muqueux sont palpables au niveau de la surface dorsale de la langue (**diapo 3**). À l'examen de l'oropharynx, il est possible de noter la présence d'une masse d'environ deux centimètres de diamètre dans la région de la base de la langue, près de l'épiglotte. Il existe, enfin, des lésions de candidose chronique retrouvées bilatéralement au niveau des commissures buccales (**diapo 4**). Un examen médical approfondi révèle la présence de certaines lésions violacées dans la région de la tête et du cou, du tronc, de l'abdomen et des membres supérieurs (**diapo 5**). De nombreux ganglions sont palpables dans les aires cervicales, et l'un deux, localisé dans le triangle postérieur droit, mesure deux par six centimètres et suggère, par son induration et sa fixité, une infiltration maligne. Les aisselles sont libres, mais de nombreux autres ganglions sont palpables dans les aires inguinales. L'examen des organes génitaux révèle la présence de lésions similaires à celles décrites au niveau de la cavité buccale (**diapo 6**). À l'exception d'une importante douleur à la palpation du site d'appendicectomie, le reste de l'examen médical est sans particularité.



Diapo 1



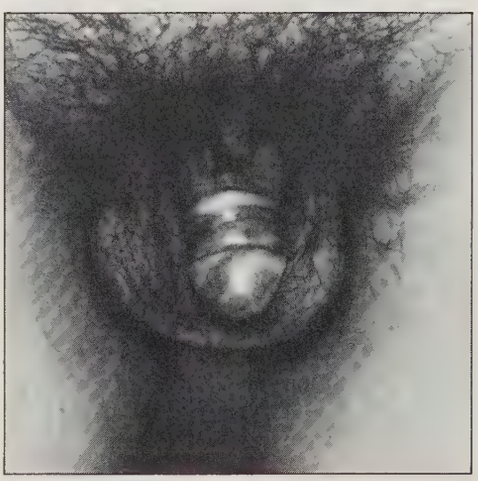
Diapo 2



Diapo 3

Diapo 4

Diapo 5



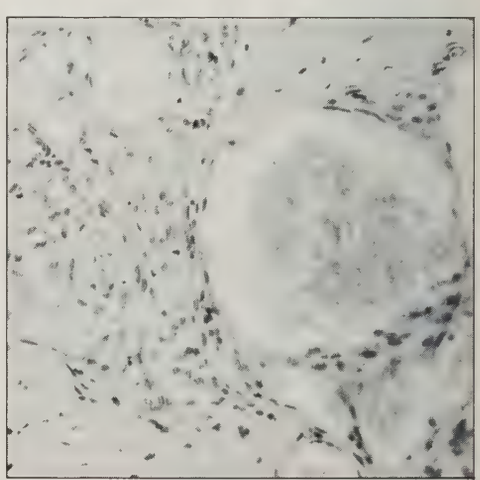
Diapo 6

INVESTIGATIONS, DIAGNOSTIC

Devant cette symptomatologie fortement suggestive d'un Sida, une biopsie cutanée et un bilan immunologique sont effectués pour confirmer respectivement le diagnostic d'un sarcome de Kaposi et la présence d'une exposition au virus de l'immunodéficience humaine (nouvelle désignation du virus HTLV-III/LAV). Le patient n'a pu être revu subséquemment tel que prévu pour une biopsie de la base de la langue et du triangle postérieur, ayant dû être hospitalisé quelques jours plus tard pour hémorragie digestive.

À l'examen histo-pathologique de la biopsie, la plus grande partie du derme est intéressée par une lésion vasculaire mal délimitée. Les vaisseaux sont en bonne partie de type capillaire mais ont souvent un revêtement endothélial proéminent. D'autre part, plusieurs bouquets capillaires viennent en continuité avec ces zones plus solides où les cellules deviennent fusiformes et présentent quelques rares figures de mitose. Il y a peu de composante inflammatoire mais on peut observer de l'extravasation de globules rouges avec érythrophagocytose. Compte tenu des notions cliniques, il est conclu que cette lésion vasculaire est compatible avec un sarcome de Kaposi évoluant vers la phase dite mature pseudosarcomateuse. (**cf. diapo 7**)

Le diagnostic de Sida est définitivement posé par la détection d'anticorps dirigés contre le virus de l'immunodéficience humaine, soit par technique Elisa, immunofluorescence indirecte (IFA) et radioimmuno – précipitation (RIPA). Le reste du bilan immunologique révèle la présence des anomalies classiquement observées dans cette condition, soit une diminution impor-



Diapo 7

tante des lymphocytes T_4 (OKT-4, ''helpers'', ''auxilliaires''), une préservation des lymphocytes T_8 (OKT-8, ''suppresseurs'') et une inversion du rapport T_4/T_8.

Le patient est encore actuellement hospitalisé, dans un stade préterminal, avec une dissémination métastatique diffuse (ganglionnaire et digestive) de son sarcome.

DISCUSSION

Le Sida se définit comme un état caractérisé par la survenue de diverses conditions révélatrices d'un défaut de l'immunité cellulaire, telles un sarcome de Kaposi ou une infection opportuniste, chez un patient infecté par le virus V.I.H. et ne présentant aucune autre cause connue d'immunodéficience.[1]

À lui seul, le diagnostic de sarcome de Kaposi est généralement suffisant pour établir celui du SIDA dans un contexte approprié[2] tel que celui observé chez notre patient. En effet, dans sa forme disséminée, ce sarcome indique un état d'immunodéficience avancé. Jusqu'à son association récente avec le SIDA, il était relativement rare en Amérique et touchait surtout les hommes de souche méditerranéenne dans leur septième décade ou encore de jeunes noirs de l'Afrique équatoriale.[3] Dans les cas de SIDA, ce sarcome a une fréquence d'environ 34 pour cent[4] et des lésions buccales sont présentes dans 50 pour cent de ces cas environ. La seule autre manifestation du SIDA plus fréquente que cette tumeur est la pneumonie à pneumocystis Carinii.[2] Le diagnostic histologique de ce sarcome peut être difficile compte tenu du fait qu'à un stade précoce, cette tumeur vasculaire, composée à la fois de cellules endothéliales et de péricytes, peut ressembler beaucoup à un granulome pyogénique et qu'en conséquence le diagnostic doit être posé à la lumière de la clinique.[4]

L'agent responsable est un rétro-virus désigné initialement HTLV-III/LAV (Human T Lymphotropic Virus Type III/Lymphadenopathy associated virus) et dénommé depuis peu de virus de l'immunodéficience humaine (V.I.H.) selon la nomenclature internationale. Le rétro-virus est un type particulier de virus dont le matériel génétique, formé de R.N.A., peut, à l'inverse du processus normal, transcrire l'acide désoxyribonucléique à l'aide d'un enzyme spécifique, la transcriptase inverse (''reverse transcriptase'', d'où le terme retro-virus).[5,6]

Le virus V.I.H. peut être cultivé à partir de tous les liquides corporels de patients infectés (sang, plasma, sperme, sécrétions vaginales, salive, larmes, lait maternel), mais le sang demeure le vecteur de transmission le plus important.[7,8] Les groupes à risque sont maintenant bien définis et comprennent les homosexuels, les utilisateurs de drogue intra-veineuse, les malades ayant reçu ces dernières années des dérivés sanguins, les enfants nés de mère infectée, et les partenaires hétérosexuels de sujets à risque.[9,10,11,12,13,14,15,16]

L'atteinte par le virus de l'immunodéficience humaine est hautement sélective et intéresse une catégorie précise de lymphocytes, soit les lymphocytes T_4 auxilliaires ou ''helpers''. Or, tel qu'illustré sur la **figure 1**, le lymphocyte T_4 est la pierre angulaire du système immunitaire, présidant au contrôle des réponses dites

TABLEAU 1

Maladies révélatrices du Sida

A. INFECTIONS PROTOZOAIRES OU HELMINTHIQUES

- Cryptosporidiose intestinale
- Pneumonie à Pneumocystis carinii
- Strongyloïdose pulmonaire, cérébrale ou disséminée
- Toxoplasmose pulmonaire ou cérébrale
- Coccidiose intestinale (si anti-H.I.V. +)

B. INFECTIONS FONGIQUES

- Candidose oesophagienne, bronchopulmonaire (si anti-H.I.V. +)
- Cryptococcose pulmonaire, cérébrale ou disséminée
- Histoplasmose disséminée (si anti-H.I.V. +)

C. INFECTIONS BACTÉRIENNES

- Infection mycobactérienne atypique disséminée

D. INFECTIONS VIRALES

- Cytomégalovirus pulmonaire, digestif ou cérébral
- Herpès simplex chronique cutané, pulmonaire, digestif ou disséminé
- Leuco-encéphalopathie multifocale

E. CANCERS

- Sarcome de Kaposi
- Lymphome cérébral
- Lymphome non hodgkinien (de grade élevé, à cellules B ou de phénotype indéterminé, si anti-H.I.V. +)

F. AUTRES

- Pneumonie lymphoïde interstitielle chronique chez un enfant de moins de 13 ans (si anti-H.I.V. +)
- Tumeur maligne lymphoréticulaire apparue plus de 3 mois après le diagnostic d'une infection opportuniste servant de marqueur au Sida

* reproduit du rapport hebdomadaire des maladies au Canada, mars 1986.

TABLEAU 2

Critères de diagnostic du Para-Sida

A. MANIFESTATIONS CLINIQUES

- polyadénopathies (notées depuis plus de 3 mois)
- fièvre (supérieure à 100°F depuis plus de 3 mois)
- perte de poids (supérieure à 10% du poids corporel)
- asthénie
- anorexie
- sudations nocturnes
- diarrhée
- infections muco-cutanées diverses (lésions disséminées à H. Simplex ou Zoster, candidose buccale, leucoplasie chevelue)

B. ANOMALIES DE LABORATOIRE

- anémie
- leucopénie
- thrombocytopénie
- hypergammaglobulinémie
- anergie cutanée
- décompte lymphocytaire T4 inférieur à 400 cellules/mm3
- inversion un rapport T4/T8 (inférieur à 1.0)
- présence d'anti-corps anti-V.I.H.

* tiré et adapté du rapport hebdomadaire des maladies du Canada, mars 1986.

TABLEAU 3

Manifestations orales du Sida et du Para-Sida

A. LÉSIONS INFECTIEUSES

- Candidose chronique
- Leucoplasie chevelue
- Gingivo-stomatite herpétique
- Zona Zoster
- Condylomes, verrues, papillomes
- Troubles péridentaires prématurés, guna
- Autres maladies transmises sexuellement

B. LÉSION RÉACTIONNELLE

- Hyperplasie amygdalienne

C. LÉSIONS TUMORALES (SIDA EXCLUSIVEMENT)

- Sarcome de Kaposi
- Lymphomes non-hodgkiniens
- Carcinome épidermoïde

humorales (lymphocytes B, anticorps) et cellulaires (lymphocytes T, lymphokines). L'infection des lymphocytes T_4 par le virus V.I.H. s'accompagne donc d'une profonde immunosuppression qui touche principalement les réponses cellulaires[7,17] et qui se traduit cliniquement par une susceptibilité prononcée à certains types de cancers et à certaines infections opportunistes de nature virale, fongique et protozoaire, ce qui est la caractéristique essentielle du Sida. Les derniers critères de diagnostic datent de juin 1985 et sont énumérés dans le **tableau 1**. Certains nécessitent une confirmation sérologique d'infection au virus V.I.H.

Le Sida représente la forme la plus grave de l'infection par le virus de l'immunodéficience humaine. Il existe cependant d'autre part, dépendamment du degré d'immunosuppression secondaire à la déplétion en lymphocyte T_4, certaines formes atténuées de la maladie allant de l'état de porteur asymptomatique au Para-Sida (affections reliées au Sida, A.R.C., "A.I.D.S. – Related complex").[17,18] Le terme Para-Sida, désigne quant à lui l'association de symptômes constitutionnels, de polyadénopathies et de certains autres signes cliniques notés chez un patient présentant au moins deux anomalies cliniques et deux anomalies de laboratoire suggestives d'une exposition au virus V.I.H. dont principalement un décompte T_4 abaissé, un rapport T_4/T_8 inversé et une sérologie positive.[1] Le **tableau 2** en résume les critères de diagnostic. Un certain pourcentage encore indéterminé de patients peut évoluer du Para-Sida au Sida. Deux manifestations buccales sont fréquentes à ce stade et sont considérées comme des marqueurs de la maladie, soit la candidose buccale et la leucoplasie chevelue,[19,20,21,22] qui désigne une lésion blanche kératotique surélevée de la surface latérale de la langue. En principe, toute leucoplasie chevelue ou toute candidose buccale chronique d'étiologie indéterminée doivent être considérées comme très suspectes d'un Sida ou d'un para-Sida, particulièrement chez des sujets à risque.

Certaines autres lésions buccales, telles la gingivo-stomatite herpétique, le zona, les condylomes, les troubles péridentaires prématurés, l'hyperplasie amygdalienne, le carcinome épidermoïde, et les lymphomes non-hodgkiniens, peuvent être associés au Sida ou au Para-Sida.[23,24,25,26,27] Ces lésions sont essentiellement de nature infectieuse, tumorale ou réactionnelle, et témoignent d'une importante immunosuppression. Il est à noter que, comme telles, les légions tumorales ne s'observent que dans le Sida. Certaines autres lésions, enfin, représentent des manifestations variées de maladies transmises sexuellement, telles la syphilis ou la gonorrhée, dont la prévalence est élevée chez les porteurs de Sida ou de Para-Sida. Les diverses manifestations buccales des affections reliées au virus de l'immunodéficience humaine sont énumérées dans le **tableau 3**.

Le dentiste doit être familier avec la symptomatologie du Sida et du Para-Sida, et, qui plus est, avec la démarche clinique impliquée dans l'élaboration du diagnostic. Devant toute lésion ou symptôme suspects, cette démarche doit initialement comprendre une histoire et un examen approfondis destinés à documenter l'ensemble des anomalies possiblement suggestives d'une infection au virus V.I.H. Ainsi, une candidose buccale devient-elle beaucoup plus significative lorsqu'associée à la présence de fièvre ou de polyadénopathies cervicales. Vient ensuite l'étape du diagnostic différentiel, basée principalement sur l'appréciation

FIGURE 1

Schéma du système immunitaire

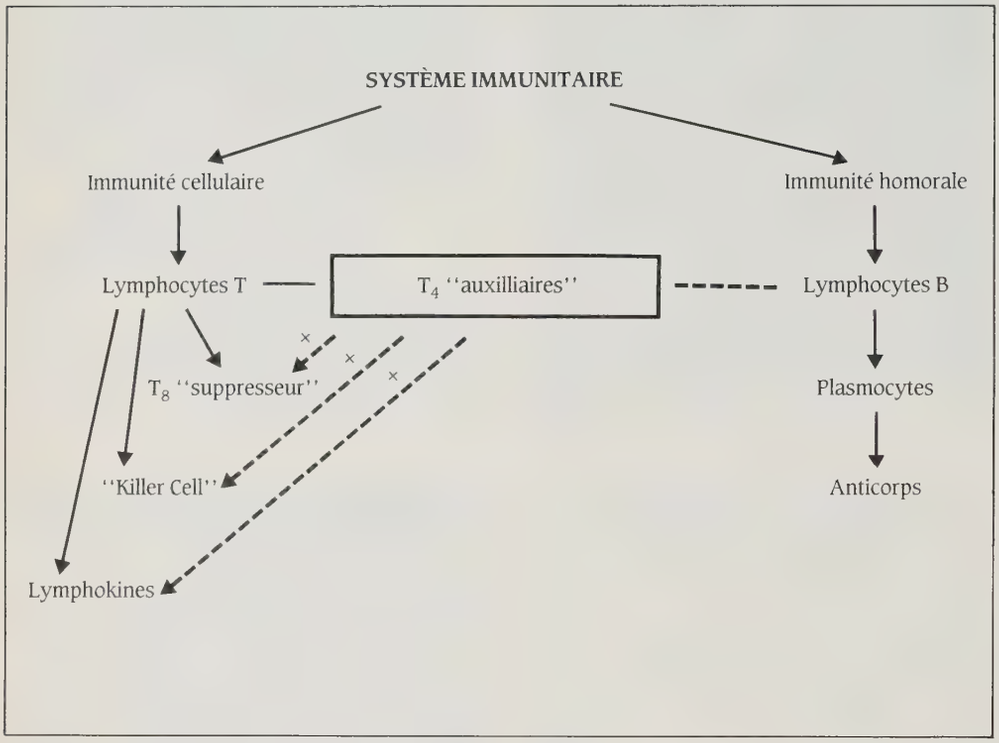
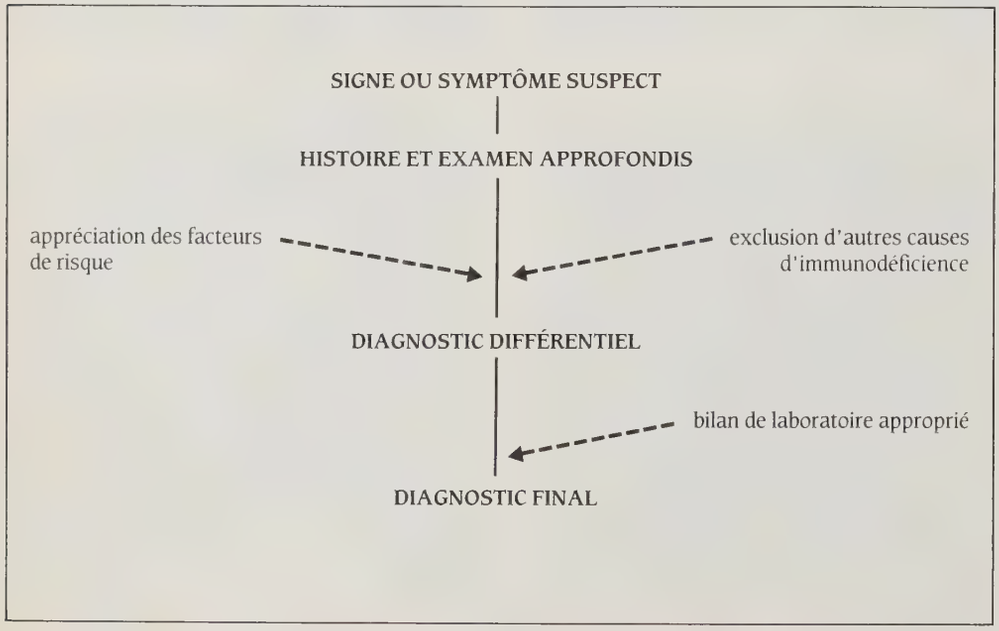


FIGURE 2

Démarche diagnostique



des facteurs de risque et d'exclusion des autres causes d'immunodéficience (immunodéficiences congénitales, maladies lympho-prolifératives, diabète, corticothérapie, prise d'immuno-suppresseurs, pour ne citer que les plus importantes). Ainsi, dans le même ordre d'idée, l'association de candidose buccale et de polyadénopathies cervicales devient-elle très significative lorsque notée chez un hémophile, en l'absence de d'autres causes d'immunodéficience. Reste enfin, comme dernière étape de la démarche clinique, la confirmation du diagnostic par un bilan de laboratoire approprié. (**cf figure 2**)

En guise de conclusion, il suffit de mentionner que le dentiste peut jouer un rôle de tout premier ordre dans le diagnostic précoce du Sida et qu'il doit être très vigilant lors de l'examen de la bouche et de la tête et du cou, compte tenu de l'allure épidémique que prend actuellement l'infection par le virus de l'immunodéficience humaine.

Les auteurs tiennent à remercier le Docteur François Blondeau, chirurgien buccal de l'Hôpital du Christ-Roi de Québec, pour leur avoir référé le patient.

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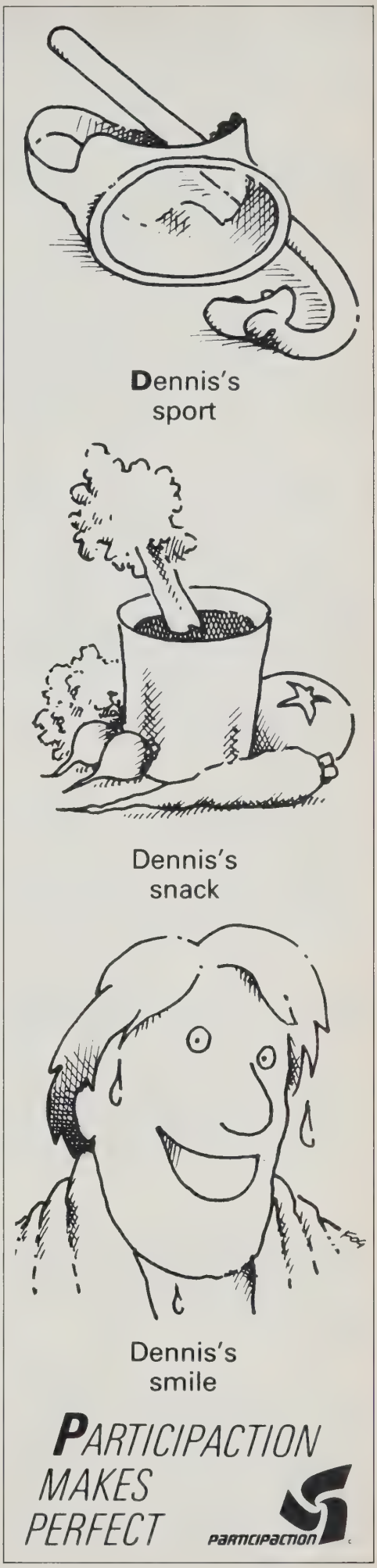

Announcements

JULY/JUILLET

July 10-11: Bio-Research TMJ Seminar, Toronto, Canada. Contact: Bio-Research Associates, 2315 North Lake Drive, Milwaukee, Wisconsin, 53211.

July 15, Hilo, **July 16**, Oahu: **Orthodontic Treatment: Reducing Mystique and Improving Prognosis**, sponsored by the Hawaiian Dental Association. Contact the Continuing Education Committee of the Association at: 100 Bishop St. Suite 805, Honolulu, Hawaii, 96813.

July 17-22: Academy of General Dentistry's 35th Annual Meeting, Seattle, Washington. The theme is "The Changing shape of Dentistry" and includes a scientific session co-sponsored by the Academy of Dentistry for the Handicapped. Contact: AGD's meeting Dept., 211 E. Chicago Avenue, Suite 1200, Chicago, Illinois, 60611, 312-440-4300.

July 18-25: Practical Periodontics for General Dental Practitioners, a ski seminar at Mount Ruapehu. Contact: The Chairman, New Zealand Dental Association, P.O. Box 28-084, Auckland 5, New Zealand.

July 19-24: First International Symposium on Management of Pain, Stress, Fear and Anxiety, Tel-Aviv. Topics include Biochemical, physiological and psychological correlates of pain, stress, fear and anxiety and Clinical Management. The official language of the symposium is English. Contact: Program Chairman, Prof. Y. Sharav, School of Dental Medicine, Hebrew University of Jerusalem-Hadassah, Jerusalem, Israel. Telephone: 972-2-446146.

July 31–August 1: 9th Annual General Meeting and Scientific Session of the Zambia Dental Association, Lusaka, Zambia. Contact: The Conference Secretary, Zambia Dental Association, P.O. Box 50363, Lusaka, Zambia.

AUGUST/AOÛT

August 2-8: International Association of Forensic Sciences Triennial Meeting, Vancouver, B.C. Contact: International Association of Forensic Sciences, 750 Jervis Street, Suite 801, Vancouver, B.C., Canada, V6E 2A9.

August 10-19: Modern Periodontics in General Practice, a series of one day seminars organized by the Education and Research Committee of the New Zealand Dental Association. Contact: Dr. Malcolm S. Farry, P.O. Box 6056, Dunedin, New Zealand.

August 15-21: Head, Neck and Orofacial Pain Management, a ski seminar in Queenstown. Contact: South Pacific Seminar, 33 Arney Road, Auckland 5, New Zealand.

August 21-23: California Dental Association's Fall Scientific Session, San Francisco, California. Contact: Cissie Cooper, 818 'K' Street Mall, Post Office Box 13749, Sacramento, CA, 95853-4749, (916) 443-0505, (800) 421-8702.

August 21-23: 3rd Annual Symposium of the American College of Oral Implantology, Kiawah Island Resort, South Carolina. Contact: Margaret M. Jackson, Executive Director, I.C.O.I., P.O. Box 2277, Grand Central Station, New York, New York, 10163. (201) 783-6300.

August 24-29: Biennial Conference of the New Zealand Dental Association, Wellington, New Zealand. Contact: Dr. Robert A. Stallworthy, NZDA, P.O. Box 3709, Wellington, New Zealand.

August 28-29: Bio-Research TMJ Seminar, Los Angeles, California. Contact: Bio-Research Associates, 2315 North Lake Drive, Milwaukee, Wisconsin, 53211.

August 31–September 1: Second National Conference on Chemical Dependency in the Dental Profession, at the ADA Headquarters in Chicago. Special airline fares have been secured for registrants. Contact: Mr. Bill Oberg at (312) 440-2622.

SEPTEMBER/SEPTEMBRE

September 3-4: Success — How to Make it Happen, sponsored by the Hawaiian Dental Association. Contact the Continuing Education Committee of the Association at: 1000 Bishop Street, Suite 805, Honolulu, Hawaii, 96813.

September 11-18: Academy of General Dentistry's Autumn Foreign Conference, Denmark to Norway. Post-conference optional tour available. Contact: Kathleen O'Donnell (312) 440-4308.

September 17-19: Canadian Association of Orthodontists Annual Scientific Meeting, l'Hôtel, Toronto. Scheduled speakers are Dr. Robert Ricketts and Dr. Donald Woodside. Contact: Catherine Anderson-Brown, Canadian Association of Orthodontists, 2175 Sheppard Avenue East, Suite 110, Willowdale, Ontario, M2J 1W8, (416) 491-2886.

September 17-19: Canadian Academy of Restorative Dentistry Annual Meeting, Hilton Hotel International, Québec City, Québec. Simultaneous translation program, registrations limited. Contact: Dr. Hubert Gaucher, Dental School, Laval University, Québec, Québec, G1K 7P4, (418) 656-5557.

September 18-20: The Northern Ontario Dental Association Convention, Pinewood Park Motor Inn, North Bay, Ontario. Contact: Dr. Gaetan Fournier (705) 472-5300.

September 20-24: Orthognathic Seminar, Waitangi Hotel, New Zealand. Contact: The Secretary, Orthodontic Society, New Zealand Dental Association, P.O. Box 872, Tauranga, New Zealand.

September 21-22: British Society for Oral Medicine's 1st International Congress, Royal College of Physicians of London, London, England. Contact: Jennifer Nathan, Congress Secretary, B.S.O.M., International Congress, Dept. of Oral Medicine, The London Hospital Medical College, Turner Street, London, E1 2AD, UK.

September 23-26: Dentechnica Nuremberg 87 – 9th International Congress of Dental Technicians with Specialized Exhibition for Dental Laboratories, Nuremberg Exhibition Centre, Nuremberg, West Germany. Motto: ''precision in dental technology is not a matter of chance''. Contact: NMA Nürnberger Messe-und, Ausstellungsgesellschaft mbH, Messezentrum, D-8500, Nürnberg 50.

OCTOBER/OCTOBRE

October 4-7: New Zealand Dental Association Meeting, Nelson, New Zealand. Contact: Dr. M. Towers, Conference Secretary, 318 Trafalgar Square, Nelson, New Zealand.

October 10-13: American Dental Association Annual Convention. Las Vegas, Nevada. Contact: ADA office of international affairs, 211 E. Chicago Ave., Chicago, Ill. USA 60611.

October 19-21: National Institutes of Health's Consensus Development Conference on Geriatric Assessment Methods for Clinical Decisionmaking, Warren Grant Magnuson Clinical Center, Bethesda, Maryland. Contact: Ms. Marti Bernstein, Prospect Associates, 1801 Rockville Pike, Suite 500, Rockville, Maryland, 20852, (301) 468-6555.

October 21-24: American Academy of Periodontology's 73rd Annual Meeting, Marriott and Fairmont Hotels, Denver, Colorado. Contact: Jean Pierson (312) 787-5518.

October 22-25: The 15th Expodental and the 2nd Expotechnodental, Milan, Italy, at the Milan Fair. Contact: Expodental, 20123 Milano, via Tamburini 2, Italy.

October 24-30: 85th Annual World Dental Congress of the FDI. Buenos Aires, Argentina. Contact: Dr. R.H. Lemme, Congressos Internationales, SA, Moreno 584-9e, Piso (1091) Buenos Aires, Argentina.

October 29–November 1: Canadian Academy of Endodontics Convention, Toronto, Ontario. Contact: Dr. Martin Gelfand, 487 Lawrence Avenue West, Toronto, Ontario, M5M 1C6.

October 30-31: Periodontal Restoration Relationship Symposium, Toronto, Ontario. Clinicians include Dr. Herman Corn, Dr. Myron Nevins and Dr. Kenneth Malament. Contact: Professional Development, The Ontario Dental Association, 234 St. George Street, Toronto, Ontario, M5R 2P1, (416) 922-3900.

NOVEMBER/NOVEMBRE

November 3-6: Clinical course on rehabilitation of edentulism by means of osseointegration, Catholic University Leuven, Belgium. Contact the University at: Faculty of Medicine, Dept. of Periodontology, Capucijnenvoer 7, B-3000 Leuven (Belgium).

November 5-7: Second District Dental Association of Pennsylvania's Annual Dental conference, Sheraton-Valley Forge Hotel and Convention Center, King of Prussia, Pennsylvania. Speakers will include Dr. Ronald Goldstein and Dr. R. Sheldon Stein. All day programs, table clinics and special programs. Contact: B.J. Dencler, Conference Coordinator, 1039 Louise Lane, Allentown, Pennsylvania, 18103. 215-820-4062.

November 5-9: Education, Attitudes, Motivation and Marketing, a venture trek outdoors seminar at Ohakune. Contact: South Pacific Seminars, 33 Arney Street, Auckland 5, New Zealand.

November 11-13: First International Congress on Oral Cancer, Singapore. Special features include Reconstructive and Microvascular Surgery. Speakers include Professor Westbury of Royal Marsden Hospital, U.K. and Professor Hugo Obwegeser of Switzerland. Contact: Dr. N. Ravindranathan, Organizing Secretary, First International Congress in Oral Cancer, Department of Oral and Maxillofacial Surgery, Faculty of Dentistry, National University Hospital, Lower Kent Ridge Road, Singapore, 0511.

November 19, Oahu, **November 20**, Kauai: **An update on Pain Control and Emergency Medicine in Dentistry**, sponsored by the Hawaiian Dental Association. Contact the Continuing Education Committee of the Association at: 1000 Bishop Street, Suite 805, Honolulu, Hawaii, 96813.

November 26: Toronto Academy of Dentistry's 50th Annual Winter Clinic, Metropolitan Toronto Convention Centre, 255 Front Street West, Toronto, Ontario. Contact: Academy of Dentistry at (416) 967-5649.

November 27: Practice Management, Royal York Hotel, Toronto. Chuck Sorenson, lecturer. Fee: AGD members $125, non members $200. Contact: Dr. Marotta (416) 735-3310.

JANUARY 1988

January 19-23: Hawaii Dental Association's 85th Annual Scientific Session, Hilton Hawaiian Village Hotel, Honolulu, Hawaii. Contact the Association at (808) 536-2135.

January 28 – February 1: 13th Asian Pacific Dental Congress and 42nd IDA Conference, New Delhi, India. Theme Esthetic Dentistry. Contact: Secretariat, C-56, N.D.S.E. – II, New Delhi 110 049.

APRIL 1988

April 14-17: California Dental Association's Spring Scientific Session, Anaheim, California. Contact: Cissie Cooper, 818 'K' Street Mall, Post Office Box 13749, Sacramento, CA, 95853-4749, (916) 443-0505, (800) 421-8702.

MAY 1988

May 15-20: 25th Australian Dental Congress, Sydney, Australia. "An international meeting during Australia's bicentennial". A limited number of brochures are available at the CDA, attention: Anne Bisson or contact: 25th Australian Dental Congress, P.O. Box 29, Parkville, Victoria, Australia, 3052.

JULY 1988

July 1-3: British Dental Association's Annual Conference, Harrogate International Conference Centre, Harrogate, Yorkshire (UK). "Facing the Future". Contact: Linda Bridges, Conference Office, 64 Wimpole St., London, England. W1M 8AL.

AUGUST 1988

August 7-11: Ninth Congress of the International Association of Dentistry for the Handicapped, Philadelphia, PA. Contact: Public Relations, (215) 576-2303, Abington Memorial Hospital, Abington, PA. 19001.

August 21-24: Canadian Dental Association's Annual Convention, at the Edmonton Convention Centre, Edmonton, Alberta. Contact: Linda Teteruck, Canadian Dental Association, 1815 Alta Vista Dr., Ottawa K1G 3Y6. (613) 523-1770.

August 21-25: New Zealand Dental Association's Biennial Conference, Christchurch, New Zealand. Contact: Dr. E.A. Cope, Conference Secretary, 200 Cashel Street, Christchurch 1, New Zealand.

SEPTEMBER 1988

September 23-25: California Dental Association's Fall Scientific Session, San Francisco, California. Contact: Cissie Cooper, Director, Scientific Sessions, CDA, 818 "K" Street Mall, P.O. Box 13749, Sacramento, California, 95853-4749. (916) 443-0505.

MISCELLANEOUS

The classified section of the Journal of the Canadian Dental Association is especially for you the dentist (not for commercial businesses). Take advantage of this marketplace to give you the results you want.

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- SDI: this is a monthly current awareness bibliography. The requester's original search in MEDLINE is stored in the computer and updates are then sent automatically twelve times a year. There is a monthly charge of $25.00 for non-members.
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- Photocopies of journal articles. All reasonable requests will be processed free of charge to CDA members; there is a $5.00 administrative fee for non-members.
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Marketplace

OFFICES AND PRACTICES

BRITISH COLUMBIA—Prince George: FOR SALE – Retail dental centre in largest shopping mall in Central B.C. High new patient flow, well run recall system, with efficient and effective management. High gross; approximately 80% insurance; 10 year lease. Office decor modern and inviting. Equipment new. Phone (604) 382-7603, (604) 381-6433.

BRITISH COLUMBIA—Vancouver: PEDIATRIC PRACTICE For Sale. Excellent opportunity for ambitious pediatric dentist. Well established, busy pediatric practice in non-fluoridated area with active recall system. Diversified practice with large referral base and opportunity for hospital dentistry. Send inquiries to 243-1755 Robson Street, Vancouver, B.C. V6G 1C9.

BRITISH COLUMBIA—Vancouver, South Granville area. Modern 2 chairs, fully equipped. 460 sq. feet. Long established quality general practice serving largely average middle class business and professionals. Prestige location in modern building, close to transit systems. Owner working a 4-day week. Now retiring. Reasonable price. B. (604) 733-7812. H. (604) 266-8181.

BRITISH COLUMBIA: ESTABLISHED PEDODONTIC PRACTICE. 3 operatories available. Pleasant surroundings with excellent view of Downtown Vancouver. Replies to Dr. G.M. Jinks, 301–1701 W. Broadway, Vancouver, B.C. V6J 1Y3, Tel. (604) 731-4608 Mon.–Thurs. only.

BRITISH COLUMBIA: URGENT – Must be at Harvard by August 1st 1987. Okanagan give away. 9 year old practice, 2 operatories, nitrous oxide, panorex, great staff, Jim Pride style office, high annual gross, four day work week. Contact: Dr. Fred Girod, office 604-493-8131, home 767-3429.

ALBERTA: Owner returning to school Fall '87 means an excellent financial opportunity exists to acquire a well established, modern practice in a progressive rural community. Fully staffed and equipped, available immediately. NO reasonable OFFER REFUSED with terms to suit purchaser. Call collect (403) Bus – 723-6623, Home – 723-2882.

ALBERTA: PRACTICE FOR SALE – 4 ops, pan, ceph available, 1800 sq. ft. Excellent lease for space with option to purchase. Practice is four years old. High annual gross. Hygienist will stay if desired. Buyer could associate for a while and see if practice was to liking. Also 10 yr. old 90 KVP. x-ray for sale for satellite or ceph installation. Owner moving to join relative in another city. Call (403) 553-4782.

SASKATCHEWAN: Busy, high volume, new, ultra-modern clinic located in mall. 3 fully equipped operatories, 4th operatory serviced, 1 hygiene operatory, 3 lab areas. Owner returning to school. Reasonable price. Please reply to CDA Box 2362.

SOUTHERN SASKATCHEWAN: Busy 6 year old practice for sale. 3 fully-equipped operatories plus 2 rooms plumbed for expansion. Office known for its efficient and friendly delivery of care. Quality staff including hygienist. Reply to CDA Box No. 2365.

MANITOBA: Family practice for sale. Established 10 years, fully equipped with 2 ops and 1 hygiene chair. Downtown location. Owner requires more time for other practice. Phone (204) 632-6980 (evenings) (204) 334-0488.

ONTARIO—Sudbury district: For sale six year old family practice, one operatory, lab and reception area. Low overhead, good as satellite, underserviced area grant available. Will consider an associate. Phone: 705-437-3821 or 705-898-2108 or 416-775-5379.

ONTARIO: Pediatric Dental practice, in North East (central) Toronto, available for associate, partner or buy out. Present owner will remain, in whatever capacity desired, for as long as mutually agreeable. Very successful (financially and professionally) progressive practice – flexible financing. Please write or call Dr. Marvin Klotz, Suite 403, 4800 Leslie St., Willowdale, Ontario, M2J 2K9. (416) 493-2211.

NOVA SCOTIA—Halifax—Established downtown general practice for sale, located in central business district. Sale includes share of modern equipment, sundries, and term lease of office space. Practice includes a large recall clientele, (mostly adult). Suitable for an experienced operator or two graduates. Apply to Box CDA 2327.

NEWFOUNDLAND: For sale – Busy high gross – net practice. Two operatories and lab. Located in modern medical centre. Busy well equipped satellite clinic. Also included – No charge, super deal for a new graduate or experienced operator. Call (709) 368-9880 after 7 p.m.

ASSOCIATESHIP AVAILABLE

NORTHWEST TERRITORIES: An exciting opportunity exists for a high quality Associate in Yellowknife. Our well established clinic practices all aspects of dentistry utilizing the latest in equipment in a modern spacious environment. Yellowknife, the capital of the Northwest Territories, is a vibrant growing city of 11,000 people offering a unique lifestyle of city amenities, outdoor recreation and opportunities to travel within Canada's last frontier. For more information contact: Dr. Hussain Biati, P.O. Box 1178, Yellowknife, N.W.T., X1A 2N8. Office: (403) 873-4578. Home: (403) 920-2185.

NORTHWEST TERRITORIES: Excellent opportunity for associateship in Yellowknife in modern state of the art dental clinic. Excellent support staff and good recreational facilities. Emphasis on good quality dentistry and we require dedicated efficient dentist concerned with patient care and management. Excellent remuneration and arctic travel available. Please reply to CDA Box No. 2367.

BRITISH COLUMBIA—Surrey: ASSOCIATE REQUIRED. Exceptional opportunity available to full time associates starting in June. Busy modern family oriented practice situated 25 minutes from Vancouver. Please contact: Dr. Salim Kamani (604) 584-7710, (604) 538-2997.

BRITISH COLUMBIA—Comox Valley: Associate required for busy family dental practice. An excellent opportunity for a recent graduate or family wishing to settle in a well established community. Renowned for its excellent recreational opportunities. Please call (604) 338-5381 Collect Dr. Heather Chisholm.

BRITISH COLUMBIA: Associateship Available – Associate required immediately in busy general quality practice in Lillooet, B.C. by the Fraser river. This is an excellent opportunity for the right individual in a pleasant, enjoyable environment for full or part time at a generous percentage split. Enthusiastic, quality conscious individuals are asked to contact: Dr. Barry Goldberg or Rita McDonald at Box 188, Lillooet, B.C. V0K 1V0 (phone) (604) 256-4616.

BRITISH COLUMBIA—ASSOCIATESHIP AVAILABLE & HYGIENIST REQUIRED in Prince George, B.C. as part of busy well established practice – full patient load immediately. High annual gross. Great outdoor recreation opportunities. Contact: Dr. D. Kjorven, #201 – 1531 8th Ave., Prince George, B.C. V2L 3R3, 604-564-7337 (office), 562-6834 (home).

ALBERTA—Edmonton: Associate Required: Busy practice in West Edmonton Mall requires ambitious dentist (new grad.) to work weekends and some evenings (negotiable). Good potential. Please contact: Dr. Finley Mah (403) 468-6937 or (403) 465-0300.

ALBERTA: ASSOCIATE REQUIRED – Rare Opportunity – Fully equipped, nicely decorated, modern 6 operatory practice requires full-time associate. Busy family oriented practice in northern Alberta. Phone Dr. E.M. Zysko 1-403-743-5958 (Bus) or 1-403-791-9380 (Res).

ALBERTA: Associate required for busy, rural practice with possibility of future purchase. Associate could begin July 87. Modern, well equipped practice in a town of 5,000 people located 200 km northeast of Edmonton. Please reply to CDA Box 2366.

ALBERTA: OWN YOUR OWN PRACTICE – Looking for a fast working associate to help with a 2 office, single doctor practice, that has grown too big to handle. Practices are located in Lethbridge area of Southern Alberta, are 5 years old and within one hour travelling time of each other. New building being built for one practice; all equipment state of the art. Either practice for sale after successful associateship established. Contact Dr. Harold Elke: Tue, Thu, Fri (403) 732-5621; Mon, Wed, (403) 647-2482.

SASKATCHEWAN: Extremely busy family oriented Saskatoon practice requires an associate who is definitely interested in future part ownership. Very modern office with new Pelton & Crane equipment and five operatories. Progressive and positive preventive oriented practice. For further information, call 1-306-384-7191 (collect). Owner wishes to return to school in future.

ONTARIO—Ottawa: ASSOCIATE – PARTNERSHIP: Full time associate required for well established modern dental facility, long term arrangement with view to full partnership. Call Dr. Len Burman (613) 745-7450 (Days) (613) 521-0565 (Evenings).

ONTARIO—Windsor: ASSOCIATE/PARTNER – High energy, motivated dentist for busy, progressive, quality-oriented practice; full or part-time; early buy-in potential. Please contact CDA Box 2363.

ONTARIO—Associate Opportunity – Ambitious full or part-time associate wanted for a well established, growing, high quality, family preventive practice. Located in a beautiful year round recreational atmosphere of southern Georgian Bay. Fabulous boating, fishing, hunting, golf, and skiing available. Modern, bilingual, open concept four operatory quality facility, with full-time hygienist. Progressive, relaxed atmosphere offers unique and excellent opportunity for a young conscientious dynamic, energetic graduate to practice all branches of dentistry with an enthusiastic and talented staff. Hospital privileges are available. Exceptional caring dentist as an associate, with a view to full partnership wanted. Solid professional environment, along with encouraged continuing education will allow you to maximize your potential in dentistry and will provide you with an exciting and rewarding experience. Call Collect: David P. Scanlon. Days – (705) 549-3355. Evenings – (705) 526-5550.

ONTARIO: ASSOCIATE wanted for Oral and Maxillofacial surgery practice in Eastern Ontario. Candidate should be certified as specialist in Ontario or should be eligible for specialty certification. Send Résumé to Box 2360.

ONTARIO: ORTHODONTICS: Associateship leading to purchase, very busy border city edgewise practice, superb people oriented staff, large TMJ, surgical and cleft patient load. An exciting and rewarding practice. Please reply to CDA Box 2359.

ONTARIO: WANTED: NEW GRADUATE TO ASSOCIATE – in one of Hamilton's finest private practices, and develop your professional skills without the financial burden of opening an office. Please forward your resume, personal profile and goals. Call evenings only (416) 648-3079.

QUÉBEC—Ottawa-Hull: Area practice located in Aylmer, Québec. Bilingual extroverted dentist required immediately for associateship leading to partnership. Established office with high patient load. Ottawa is but five minutes away. Please reply to CDA Box No. 2346.

NOVA SCOTIA—Halifax—Dartmouth: ASSOCIATE-PERIODONTIST – Periodontist wanted to join established periodontal partnership as an associate with a view to partnership. Graduate of North American approved, Board eligible post-graduate program. Contact Periodontal Associates – Drs. Hannigan, Andrews and Foshay, Suite 590, 5991 Spring Garden Road, Halifax, Nova Scotia B3H 1Y6.

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BRITISH COLUMBIA—Kelowna: DENTAL HYGIENIST – Self-motivated dental hygienist required for a progressive, team oriented, family practice. Position available July 1, 1987 for 4 days/week. Excellent opportunity for personal and professional growth. Bonus system offered. Apply to Drs. Tom & Barbara Gordon, #312–1890 Cooper Rd., Kelowna, B.C., V1Y 8B7. (604) 860-3144.

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BRITISH COLUMBIA—Nanaimo: DENTAL HYGIENIST REQUIRED. Full or part-time opening available in a well established general practice. Send résumé to Dr. L. Tessari, #16 – 2159 Departure Bay Rd., Nanaimo, B.C., V9S 3V5, or call collect (604) 758-1168.

BRITISH COLUMBIA: Dental hygienist required for active North Vancouver general practice. Excellent future in part-time or full-time capacity from June 1st. Contact: Dr. R.S. Akune, 1509 – Eastern Ave., North Vancouver, B.C. V7L 3G2. (604) 987-5228 (office) 922-8323 (home).

SASKATCHEWAN: Full-time registered dental hygienist for downtown preventive practice. Excellent working environment and flexible working hours. Please contact: Drs. Finningley, Moore & Saganski, 229B 4th Avenue South, Saskatoon, Sask. S7K 4K3. (306) 665-8414.

SASKATCHEWAN: Practice opportunity for associate dentist to join extended hour Medical & Dental Clinic with 70,000 medical visits per year. Recently opened Dental Clinic growing by 6-10 new patients per day. Apply with resumé to Dr. R. Katz, 357 Albert St., Regina, Saskatchewan, S4R 2N6. (306) 775-2175.

NORTHWESTERN ONTARIO: HYGIENIST – Public health position available for part-time or full-time hygienist. For more information, please contact: Dr. L.W. Armstrong, Director, Preventive Dental Services, Northwestern Health Unit, 15 Ocean Avenue West, Kenora, Ontario, P9N 3W7. Tel. (807) 468-3147.

ONTARIO: ORAL SURGEON WANTED: for busy practice in Toronto office. Anesthesia essential. Salaried position with benefits. Contact Drs. Siegel, Gaum & Moon, 1355 Victoria Park Ave., (416) 752-9500.

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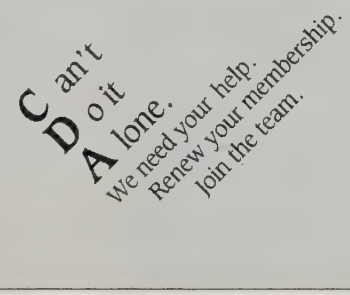

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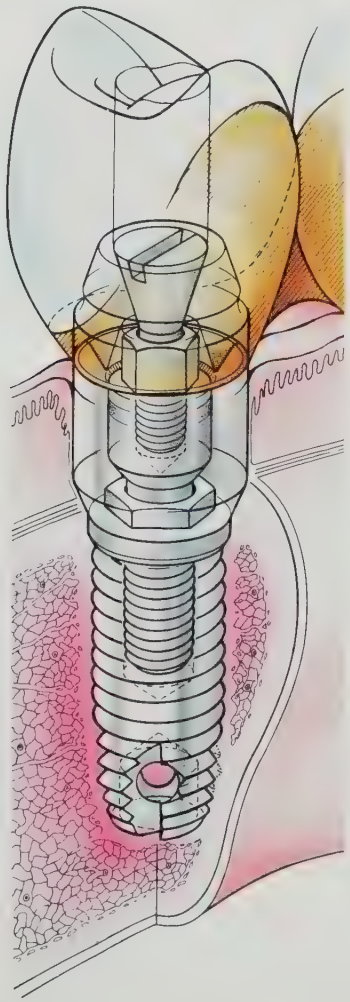

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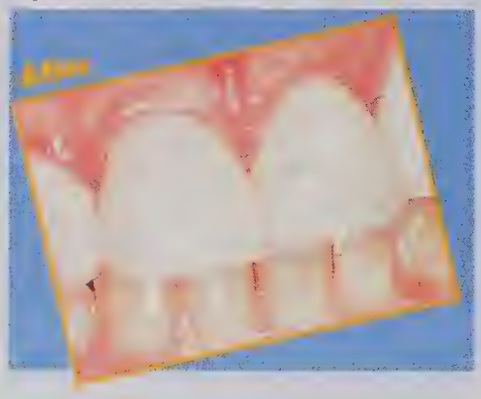

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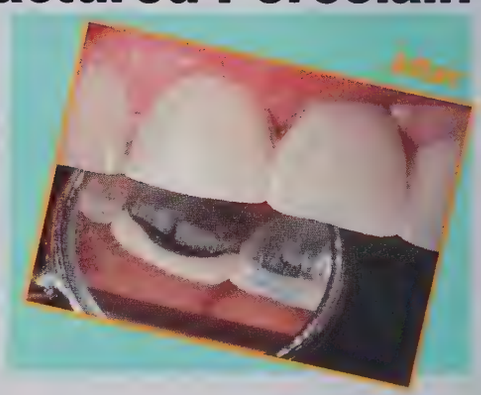

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COVER PHOTO

CDA Information Officer Kimberley Allen, left, displays winning (Kindergarten-Grade One) poster, centre and the Grades Two to Four winner, left, in the annual National Dental Health Month Poster Competition. Ruth Beaulieu, right, CDA Information Services Secretary, holds the Grades Five to Seven winner.
(Photo by Clarence Metcalfe)

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CONTINUING DENTAL EDUCATION, A MATTER OF LIFELONG COMMITMENT

The primary goal of predoctoral dental education always has been to prepare general dentists for practice without additional formal education. To accomplish this goal, students are required to master large amounts of information, become competent in a wide range of diagnostic and therapeutic procedures, and, finally, gain confidence through the repetitive and comprehensive care of patients. Legally and ethically, dental students may obtain licenses and begin to practice immediately upon graduation in all Canadian provinces.

We all know that the needs and desires of our modern society are changing rapidly. And so are the continuing advancements in dental research and the new developments in dental technology. Population growth, life expectancies, means of rapid communication and influences of pressure groups have forced the dentist to remain constantly adaptable. In addition, all areas of dentistry have gone through significant changes. Operative dentistry does not teach silicate anymore. Silicate has been replaced by composites. Composites have been gradually refined to such a point that today they polish better and resist discoloration very well. Amalgam is now a stronger material than before. Cavity preparations, when indicated, are now of smaller size, that is conservative. Cosmetic dentistry has revolutionized the treatment of anterior teeth, mainly through etching techniques. Porcelain and plastic veneers have limited the indications of porcelain fused to gold crowns. Substitutes for gold alloys have become available in crown and bridge. Higher quality porcelains permit, in selected cases, the use of complete porcelain crowns, without any metallic substrate. New designs in removable partial prosthetics, have considerably improved comfort and esthetics by elimination of clasps, particularly in the anterior region of the mouth. Orthodontists are now provided with a wider variety of wires: stainless steel, titanium, and so on. New drugs are periodically introduced on the market which have to be taken in account in dental treatment delivery. New techniques have also appeared in Periodontics, Pedodontics, Prosthodontics and so on. It is thus clear that the training of the dentist does not and cannot end with graduation from the dental school.

Curriculum coordinators, in dental faculties, like to think that their undergraduate program is designed in such a way that it generates dentists not only technically competent but also scientifically oriented in order that they may continually acquire knowledge and skills which will further contribute to the successful achievements of his professional goals. In order to provide better and up-to-date services, the dentist must then be adaptable, flexible and receptive.

Continuing Education has, for these purposes become increasingly important to the dental profession. It has grown from the status of brief refresher courses to an increasingly complex network of courses. Lectures illustrated with slides are still probably the most common method used in Continuing Education although other systems are becoming increasingly popular: participation courses, audio-visual programs, and demonstration courses.

There is not a single dentist who, having graduated from a dental school in 1982 or before, could still be considered excellent if he did not go through some form of Continuing Education since his or her graduation. Unless one subscribes to the concept that Continuing Education is a matter of lifelong commitment, one can slowly but surely reach mediocrity.

Pierre Desautels, DDS, MSD
Scientific Editor, (French)

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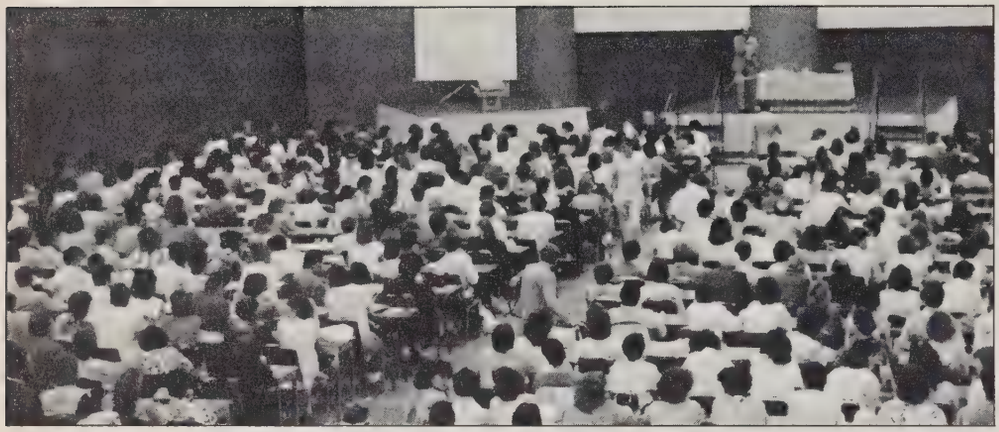


Interest in the subject matter being offered in clinical sessions was clearly indicated by meeting rooms filled to capacity.

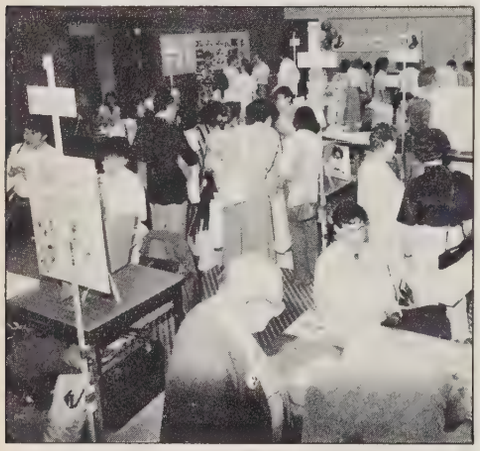


Table clinics attracted wide interest.

Participants in the hands-on clinic in aesthetic bonding show off their 3-D shades!

Dr. Ernie Ambrose (second from right) with friends, ponders his next wager during the popular President's Ball and Casino Night at the Meridien Hotel.

CDA/ODQ CONVENTION '87 — 'A SPECTACULAR SUCCESS'

CDA/ODQ Convention Chairman Dr. Michel Jahjah told his audience at the closing luncheon "I promised that 1987 would break all records. That promise has been kept."

In terms of attendance, all records were indeed broken.

A total attendance of 7,913 was recorded. Dentists accounted for 2,915, hygienists, 732, assistants, 1,008, administrative personnel, 461, technicians, 38, spouses, 344, exhibitors, 1,587, guests, 467, and students — 158 dental, 154 hygiene, 39 assistants and 10 technicians.

Dr. Jahjah noted that from the first day of the pre-Convention events, "we noted a great interest, very good attendance, which indicated a participation and a success for the three days of the Congrès."

At each of the subsequent clinical sessions, the meeting rooms were filled to capacity.

280 exhibits

The event also attracted a wide range of exhibitors. There were 280 booths where dental equipment and materials manufacturers and agents of Canada, the United States and Europe, were represented.

Thanks to the CDA

Dr. Jahjah extended particular thanks for the success of the Conjoint Convention to the Management Committee and the Executive Council of the Canadian Dental Association, "it's President, its Executive Director and staff members. It was a pleasure to work with all of you."

High calibre-wide variety

Distinguished speakers and researchers from Canada and the United States drew capacity audiences on subject matter ranging from cosmetic dentistry to laser use in endodontics and to building and keeping a practice growing.

A completely different clinical session "Sex and Intimacy" led by Domeena C.

Renshaw, MD, of Maywood, Illinois, drew a packed house for a frank and informative all day session.

Capitation panel

One of the highlights of the Convention was an all-day study of a subject of much current concern in Canadian dentistry – Capitation. Participants were Dr. Claude Chicoine, President and Executive Director of l'Association des chirurgiens dentistes du Québec; Dr. Bernard Dolansky, Immediate Past-President of the Ontario Dental Association; Mr. Ken Davis of the Dental Maintenance Organization Inc., of Toronto, a lawyer and management consultant, and Dr. Donald MacFarlane of Vancouver, Chairman of CDA's Third Party Dental Plans Committee.

Grieve Memorial Lecture

The annual George Wellington Grieve Memorial Lecture, "New developments in the application of biomechanics to clinical orthodontics," was presented by Dr. Charles J. Burstone, Professor and Chairman, Department of Orthodontics, University of Connecticut School of Dental Medicine, who is also Professor of Mechanical Engineering in the same University.

Following the presentation by this distinguished educator, researcher and inventor, he was presented with a token of appreciation from the CDA, a framed certificate, by Dr. John R. Robertson, President of the CDA.

Health Minister Epp

Health and Welfare Minister Jake Epp spoke to a capacity gathering at the closing luncheon of the Convention, praising organized dentistry in Canada, and telling them, "you are regarded as the leaders in disease prevention and we congratulate you for that!"

Table Clinics

A wide array of well-attended table clinics was staged on Tuesday, May 26 and Wednesday, May 27, including those presented by students who had participated in the CDA/Dentsply Student Clinician Program.

Social program

The highlight of the Convention social program was the "President's Ball and Casino Night" in the Meridien Hotel, where delegates, spouses and friends enjoyed a dinner, dancing and later, tried their skill at casino tables.

The following evening, the "Soirée Rendez-vous '87" was staged in the same ballroom. It was an evening of non-stop dancing to the music of the Serge Galarneau Orchestra and "The Quizz" provided the beat for the younger set.

Dr. Michel Jahjah with his youngest adviser, Laurent Viau. (The son of a Convention staff member who never lacked admirers or baby-sitters).

CDA President Dr. John R. Robertson, centre, chats with Dr. Mel Hershenfield, left, who served on the Convention Executive Committee. They are seen at the doorway to the "Casino."

(Photos by James Gauthier, courtesy of the ODQ, and by Clarence Metcalfe, CDA).

The CDA/ODQ Joint Convention's Executive Committee poses with the painting given by the CDA as a token of appreciation for Dr. Jahjah and his staff's efforts in realizing a highly successful Congrès. They are, left to right: Dr. Florent Terriault, Dr. Guy Boyer, Chantal Bally, Linda Teteruck (CDA), Dr. Michel Jahjah, Dr. Laval Couture, Alida Pierosara, Dr. Mel Hershenfield and Dr. Michel Plamondon.

This is not a scene from the Convention Centre's emergency room — but the practical session of the "Heart-Saver" Course.

A general scene across the wide array of exhibit booths at the CDA/ODQ Convention. Booths displaying products of dental firms and agencies numbered about 280.

Words of assurance, it would seem, are being voiced by Health and Welfare Canada Minister Jake Epp, centre, to Dr. John R. Robertson, CDA President, to the Minister's right. Dr. Ron Markey, CDA President-Elect, far left, and Dr. Marc Boucher, President of the ODQ, extreme right, look on.

CANADIAN DENTAL ASSOCIATION CONVENTION

IN CONJUNCTION WITH,
les journées dentaires 1987
Michel Jahjah, D.D.S.
General Chairman

CDA IN MONTREAL . . . EPILOGUE!

If you joined us in Montreal for **Rendez-vous '87**, you will have no difficulty in recognizing the familiar persons and places in the photographic coverage appearing on these pages. If, on the other hand, you did not join us, take a look at what you missed!

But pictures also need an appropriate frame, so here are the spectacular attendance figures for the 1987 CDA/ODQ Joint Convention:

Dentists	2915
Hygienists	732
Assistants	1008
Administrative staff	461
Technicians	38
Spouses	344
Exhibitors	1587
Guests	467
Students – dentists	158
– hygienists	154
– assistants	39
– technicians	10
TOTAL	**7913**

Over 400 of the above participants came from outside of the Province of Quebec, and we thank each and every one of them for their effort!

Now, for a few facts.

A grand number of 107 dentists registered for the Health Assessment Clinic and underwent a series of tests on site.

The live presentation on patient, transmitted from the University of Montreal to the Convention Centre, was attended by a record number of 1,000 persons. Two giant screens projected the detailed images of mucogingival surgery. The University and Convention Centre were linked by a special telephone and participants were able to question the clinician throughout his presentation.

The enormous international restaurant was able to seat 1,500 persons simultaneously and . . . our compliments to the Chef. The food was excellent!

Many participants visiting the exhibits told us how much they appreciated the vastness and spaciousness of the new hall. The traffic flow was evenly distributed and, according to hearsay . . . business was good!

Attendance in the lecture rooms was high throughout the convention as well. The two afternoons of table clinics were popular on everyone's agenda and offered a wide variety of topics.

And the winner is . . . Dr. Lise Turgeon from New-Richmond, Quebec. This lucky lady won the two international airline tickets offered by Air Canada. Bon voyage!

The Presidents' Ball and Casino Evening was a great success. Tables had to be added at the last minute and a total of 440 persons dined, danced . . . and gambled!

The Honourable Jake Epp, Minister of National Health & Welfare, was a welcome speaker at the closing luncheon of the convention and provided some insight into future government health programs.

A special word of thanks to all those who contributed to the success of Rendez-vous '87, but, most of all, to the participants, without whom this convention could not have been possible.

And now that the joint meeting has come to an end to the complete satisfaction of both organizations, the CDA convention and Les Journées dentaires each go their separate way. The 1988 CDA convention will be held in Edmonton from August 21st to 24th and the local organizing committee is already totally immersed in the planning process of the meeting. Les Journées dentaires will be back again, as always, at the Montreal Convention Centre from May 29th to June 2nd.

Until then, enjoy the coming months!

PANEL ON CAPITATION: A CONVENTION HIGHLIGHT

One of the major features of the CDA/ODQ Conjoint Convention in Montréal May 24-28, was an analysis of a subject of major concern – ''capitation dentistry'' – by a panel of four prominent figures familiar with current trends in remuneration and delivery systems in Canada.

The four, who were introduced by Dr. Robert Miller, a past-president of the Montréal Dental Club, were: Dr. Claude Chicoine, President and Director-General of l'Association des chirurgiens dentistes du Québec; Mr. Ken Davis of the Dental Maintenance Organization Inc., of Toronto, a lawyer and management consultant; Dr. Bernard Dolansky, immediate Past-President of the Ontario Dental Association and Dr. Donald MacFarlane of Vancouver, Chairman of CDA's Third Party Dental Plans Committee.

'Destabilization of profession'

Dr. Chicoine said that circumstances such as a surplus of dental manpower, relaxing of ethical standards and the ''overall behaviour of our profession'' had been contributing factors in the ''destabilization of our professional environment'' creating a climate for such developments as capitation, union clinics and assignment.

He pointed out that although the dental profession is structured much differently in Canada from south of the border, nevertheless ''modes of remuneration and alternate delivery systems'' which originated in the United States have a strong influence here. He predicted that influence would grow in strength ''with a free trade agreement between our two countries.''

Dr. Chicoine proceeded to render an evaluation of different forms of Fee-for-Service dentistry, including: Usual, Customary and Reasonable Fees, Fixed Benefit or Table of Allowance, Direct Reimbursement, Contract Fee Schedule (or PPO), Service Benefits Programs and Assignment.

Those programs in the Salary Section include Salary, Sessional Indemnity and Capitation, Dr. Chicoine said.

Advantages – disadvantages

The disadvantages of this latter category for the patient is that he cannot choose his own dentist and the dentist conversely cannot choose his own patients. It can result in a loss of clientele for the participating dentist and he will be in competition with capitation offices. The patient may appreciate the fact that he has no fee burden, and a wide range of dental services, and the employer has control over the cost of the program.

Dr. Chicoine notes that British Columbia

(Photo by James Gauthier, Montréal)

Capitation Panel members are seen in action. They are, left to right: Dr. Don MacFarlane, Chairman of CDA's Third Party Dental Plans Committee; Mr. Ken Davis of the Dental Maintenance Organization Inc., of Toronto; Dr. Bernard Dolansky, Immediate Past-President of the Ontario Dental Association, and Dr. Claude Chicoine, President and Executive Director of l'Association des chirurgiens dentistes du Québec. At the podium, right, is the panel chairman, Dr. Robert Miller, a past president of the Montréal Dental Club.

and Ontario are "the primary targets for this type of problem. In Manitoba," he said, "the unions have conducted a survey among dentists regarding their fee schedule."

He believes that when individuals decided to become dentists "it was because dentistry was a liberal profession. The foundations of professional liberalism are: competence, independence, initiative and responsibility. These foundations assume their full significance only within a fee-for-service system."

"Within the context of capitation, the dentist no longer feels the obligation to prove his competence according to the fees that would normally be asked for each service" rendered, Dr. Chicoine explained. "The dentist no longer has to justify his fees or to justify himself, because, in this context, his competence, from which he profits monetarily, is limited to mere appearance of quality."

'Mobilize ourselves'

Dr. Chicoine advised that "the first reaction of a professional who wishes to remain liberal is for each to refuse to sign a capitation agreement with anyone whatsoever. We must mobilize ourselves behind the slogan: No Dentists. No Capitation."

Dentists themselves, Dr. Chicoine said, must find the way to increase access to dental care, in order to avoid being "under an outsider's supervision." The dentist must retain his integrity, but he may also "adopt the laudable objectives of those who wish to swallow him up, and work with them to achieve those objectives independently. Since dead aim has been taken on all dental offices, we must help ourselves if we wish to ensure the future."

In this context the dental profession in Québec created Dentaide, he said, a development which offers the following aspects:

- for basic care, the dentist agrees to bill his usual fees, and not to exceed the suggested fees in the current year's fee guide. For all other services, the dentist charges his usual fees, and uses his "good judgement when billing for services in difficult cases."
- For insured services only, the dentist agrees to claim his fees from the plan administrator, in the case of the S.S.D.

The program has "given the insurers a new product which allows them to increase their market share, without having to resort to other methods of remuneration," Dr. Chicoine said. And in regard to the costs of dental care, the program "encourages growth of our patient clientele, and by removing a large part of the fee barrier, improves the public's access to quality dental care." Dentists agree to claim their fees for the insured portion from the Dentaide administrator and the patient has nothing to pay for the insured portion of the services he receives.

He said he knows this is a tool "which can permit us to control the changes and orient the profession's evolution." Also, Dr. Chicoine explained , "we can preserve our professional independence within the context of a good system for distributing quality health care, accessible to all, and at reasonable cost."

The Dentaide system, he said, was being offered to all dentists "so that the profession may achieve its objectives."

Dr. Bernard Dolansky

Dr. Bernard Dolansky, Immediate Past President of the Ontario Dental Association traced the growth of Capitation in his province from its first appearance in the late 1970s, providing a low-cost service to blue collar workers.

The ODA took the stance that it didn't like what it saw, but the development was then only a blip on the horizon and didn't have much impact on the overall dental picture in Ontario.

That all changed dramatically about two years ago, he said, "when the insurance companies got involved with their large resources."

In the early days of dental insurance, the ODA mobilized to resolve some of the points of contention with the insurance companies regarding "who would control what?" Dentistry became cohesive and set up a standardized fee guide and insurance claim form. The Dental Prepayment Advisory Committee was also set up to establish "proper behaviour between the dentists and the insurance companies."

"We as professionals stuck together so effectively that we made the rules," Dr. Dolansky said.

Now the winner in Ontario "is clearly the dental patient," he said.

Most of the dentists followed the guidelines, but with too many dentists, alternate systems developed.

Ontario has more than 40 per cent of Canada's dentists and what happens in that province has an impact on the rest of the country, Dr. Dolansky explained.

The problem of Capitation became a major one about 18 months ago, he said, when two groups became linked with insurance companies. Representatives of these groups began to organize units of capitation with unions, etc.

'No significant plans'

However, Dr. Dolansky said, "not one significant plan has been sold in Ontario."

Late in 1986, the ODA swung into action and arranged to launch a major public awareness campaign, informing the public of the benefits of fee-for-service dentistry. Dentists across the province were encouraged that something was being done, and felt united as a profession. As a result "they were not rushing to get into capitation. Fewer than 100 dentists got involved in the field in Ontario," he said.

Transfer of risk

With dental insurance, people buy it because the firm assumes the risk.

However, with capitation plans, Dr. Dolansky said, "the dentist assumes the risk and he must pass it back to the patient – by under-delivery of care."

Insurance companies are interested in the schemes because of the volume. They are trying to maintain their market share or increase it, he said. But the plans being sold across the province are not being sold to the big unions or employers.

"The so-called irresistible wave of capi-

tation has in fact – crashed!'' he told his audience. The 20 per cent level of the dentist-providers, organizers said they would reach hasn't been realized, he said.

''When dentists value their profession and professionalism and take a stand – where the public sees them not only protecting themselves but the interest of the public, then, the inroads of big firms can be stopped. We do so in the public interest,'' Dr. Dolansky concluded.

Growing in the U.S.

Mr. Davis, who has been involved as a management consultant for dental practices participating in capitation in the United States for 10 years, said such programs are rapidly increasing in number south of the border. Where 3.18 per cent of the dentists were involved in capitation in 1983, there are more than four times that number now.

For capitation to work successfully there must be a high population level, he said.

There are major differences between the capitation dentistry developed in Canada and that in United States. The experience gained in the U.S. was applied at the early stages here. The insurance companies drew upon this underwriting expertise because they were concerned about possible damage to their reputations, he said. They wished to ensure that there would be a good plan design in Canada.

Mr. Davis said there is also a high volume of information available on the subject now. There have been about 800 articles published on the theme of capitation dentistry. As a result, he told the panel, purchasers of the employee benefits were much more sophisticated than in the United States in the early days of the development there.

Plan consultants are also better informed and their advice is ''followed religiously.''

Dental care is often the largest single dollar value health benefit in Canada and gets special attention, Mr. Davis said.

He felt that if Canadian dentists are opposed to capitation from philosophical, moral or social points of view, they should still be watching its progress and they ''should still keep your eyes and ears open.''

He claimed that most capitation programs ''will not lead to an overall decrease in revenue'' for the participating dentist.

Care must be exercised in considering which capitation company to choose, he said. The dentist must look at the philosophy of the company and match it with his own. He must also consider the company's risk factors, cost containment and treatment procedures included and excluded.

He should study any contract carefully and make certain to seek legal advice.

The new generation of capitation plans ''responds to the problems of earlier plans,'' Mr. Davis said. But it is still very important to analyze the situation and the facts ''as they apply to one's practice.''

Dr. MacFarlane

''What can dentistry, the dentist and the dental team do to stop capitation?'' Dr. MacFarlane asked. ''First and foremost, the slogan 'no dentists, no capitation' is a valid one,'' he said. ''If the profession stays unified, it will be very difficult for these programs to be successful in Canada.''

He pointed out that Canadian dentists are opposed to capitation plans for the following major reasons:

- because of the closed-panel nature of the program;
- because of the difficult and complex contracts that are involved;
- because the patient's interests are not being served; and,
- the programs tend to be underfunded and are sold on the basis of either reductions in premiums or package enhancements.

Dr. MacFarlane also answered the question why alternatives such as capitation plans are beginning to make their appearance in Canada at this point in time. A number of underlying factors have given entrepreneurs the impression that Canada is a fertile environment for the promotion of capitation plans.

These include such factors as:

- there's an excess number of dentists beyond the demand;
- the high cost of establishing a dental practice versus the likelihood of success;
- the availability of an increased number of dental auxiliaries;
- the perceived high profitability of dental practice;
- a significant change in the mix of dental procedures the average patient requires;
- a perceived opportunity to mass market dentistry;
- emphasis by employers on cost containment; and,
- the perception that the increase in utilization is created by practitioner-generated demand.

Dr. MacFarlane emphasized the point that the manpower situation in Canada at present is not nearly as bad as it was in the United States when capitation began to

CDA RETIREMENT SAVINGS PLAN

Unit values: (Funds are valued weekly)

Fund	Unit values as at June 26, 1987	May 29, 1987
Fixed Income Fund	56.94722	56.43377
Common Stock Fund	147.95977	143.50393
Money Market Fund	37.69232	37.46978
Balanced Fund	25.27252	24.77387

Interest rates:

Guaranteed Fund Term	*Interest rates as at June 26, 1987	May 29, 1987
1 yr	8.70%	8.45%
2 yr	9.00%	8.80%
3 yr	9.30%	9.25%
4 yr	9.60%	9.50%
5 yr	10.00%	10.00%

(*rates subject to change without notice.)

Total Assets (Market value) of the Plan as of:

June 26, 1987	May 29, 1987
$86,673,141	$84,368,182

For further information:

Write: Canadian Dental Service Plans Inc.
Retirement Services Department
Suite 600, 2 Lansing Square
Willowdale, Ontario M2J 4Z3

or phone, toll-free:
Western and Atlantic Canada and Ontario Area Code 807 only 1-800-268-5418
Quebec and Ontario, (except Area Code 807) 1-800-268-3411
Metro Toronto Area . . . 497-7117

make its appearance there. Dentists in Canada are generally busier. Also, a united profession behind the concept "no dentists, no capitation" is very difficult for capitation plan promoters to counter. "One of the major truisms about capitation plans is that the only real winner in these schemes is the promoter. The program is designed to ensure that they make money," he said.

As for the incentives for the various parties involved, he said the promoters have a very strong incentive to sell plans, to use large advertising budgets and substantial commissions to "push their products." However, Dr. MacFarlane said, "there's very little interest in ensuring adequate funding or sound actuarial basis for the premiums they'll quote."

He said premiums are structured to undercut existing premiums or enhance benefits for the same premium. "Cost competition to keep business is really their incentive. Promoters will thrive if allowed to, on the excess dental manpower situation, being prepared to turn over the disenchanted providers and to sign up new, naive graduates," Dr. MacFarlane explained.

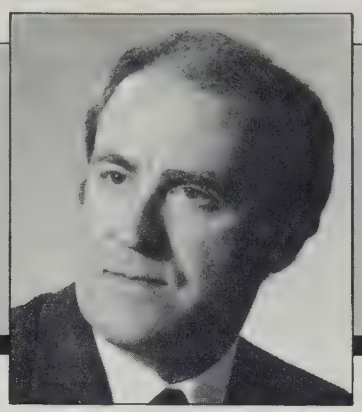
The incentive for the patient, he said, is a lower premium for the same dental coverage that they currently have, or there may be enhanced coverage for the same premium.

For the dentist, theoretically the incentive is to increase his business, increase his income – "to provide no more care than the dollars that you receive – i.e. – just enough to keep the patient happy. The dentist's incentive is to discourage the patient with a lot of care and encourage the low demand, or the patient who is already on maintenance level."

Experience with capitation schemes in the United States revealed, basically, that dentists did not experience the increase in patients that they expected when they signed up, except those in situations like one-company towns. "Generally speaking, there was no realization of income improvements," Dr. MacFarlane reported. The result, he said, was "universal mediocrity, an inadequate level of care and less than the optimum of dental health improvement."

He noted that in the U.S. experience, "when employers instituted dual choice plans – regular dental plans and capitation – as an option, 10 per cent or less opted for the capitation, even if it was promoted. Most patients felt that they wanted to stay with the family dentist, or to choose for themselves, and not be restricted."

Dr. MacFarlane warned that those inclined to look at capitation schemes must become "very knowledgeable about the economics" of your own practice. With regular insurance plans, he said, the insurance



PRESIDENT'S COLUMN

John R. Robertson, DDS,
President of the Canadian Dental Association

CDA/ODQ CONVENTION – A RESOUNDING SUCCESS:

Rendez-vous '87 was a resounding success!

In terms of good organization, in terms of variety in subject matter at all the various clinical sessions, in terms of the calibre of the presenters, in terms of punctuality and in terms of an impressive exhibitors' display – the CDA/Les Journées dentaires joint gathering was one long to be remembered.

The most astounding aspect of all was the overall attendance figure – 7,913!

A time-honored adage springs to mind: "In unity there is strength."

L'Ordre des dentistes du Québec to which tribute for so much of this success is due, has an extremely valuable asset in the person of Dr. Michel Jahjah. He and his Convention Committee possess organizational skills par excellence.

Certainly we are proud that there was much high calibre input by CDA officials as well, but Rendez-vous '87 was Dr. Jahjah's show and he carried it off with polish and professional flair. Not that anyone ever doubted it would be otherwise. He now has a long and impressive record of successes with the annual Les Journées dentaires conventions.

It is no secret that he has a team of highly talented and energetic support staff people. And he was ably supported by several other ODQ officials with well-honed organizational ability – ODQ President, Dr. Marc Boucher, ODQ VPs Dr. Laval Couture and Dr. Mel Hershenfield, Dr. Guy Boyer and Dr. Michel Plamondon, who to name a few, are ODQ Directors.

No one can better pull the team together than Dr. Jahjah. His warm persuasive personality and innate sense of diplomacy must be the envy of any politician who has witnessed him in action.

And he is generous in his gratitude.

True to form, in awarding kudos at the closing luncheon in Montréal, Dr. Jahjah expressed the pleasure his committee enjoyed working with officials of the Canadian Dental Association. He singled out CDA's Director of Communications Linda Teteruck, "who" he said, "assured a perfect liaison between both hosting organizations during these many months."

I am fully prepared to second his remarks about the quiet, efficient skill and well-reasoned counsel, supported by pure hard work, on the part of Linda Teteruck.

I was very proud of our own CDA aspects of "Rendez-vous '87" – all of them highly successful events – conveying very valuable information on all of the most important dental issues of the day.

Dr. Charles Burstone, a researcher, teacher and a man of many professional accomplishments on the international scene, was a very impressive choice to deliver the Grieve Memorial Lecture.

A subject of much current concern received a thorough airing at the Panel on Capitation. Our thanks go out to Dr. Claude Chicoine, Dr. Bernard Dolansky, Mr. Ken Davis and our own Dr. Don MacFarlane, for providing thoughtful and highly informative presentations.

And we were particularly honored by Health Minister Jake Epp's presence and his speech. His personal zeal, and interest in the concerns of the CDA and the willingness of Health and Welfare Canada to welcome and attach high value to dentistry's input, may very well be without precedent in the history of organized dentistry in Canada.

It was a very memorable Convention, and those of us at the CDA say to those of you at ODQ – "Nous vous remercions."

We have gained a wealth of priceless experience and are building on that to ensure new heights at the CDA Convention in Edmonton, Alberta, in 1988.

firm does a careful statistical analysis of the group to be covered. "In capitation plans it's up to you to determine if the rate being suggested is going to be sufficient to cover the factors that affect plan costs. You will be assuming the risks....therefore you had better know what those risks are."

The individual dentist must also know the average mix of services that will be required by the group he will contract to service. A number of factors such as the average number of persons per family, can very significantly affect the costs to the dentist. The dentist must also be aware of the utilization rate.

Contracts

Dr. MacFarlane had a particular word of caution about contracts. "Never sign any contract without seeking legal advice."

He concluded his remarks by listing some perils in capitation contracts:

- the dentist assumes the financial risk
- the lack of control over the contract provisions; these may have significant impact on your office.
- limitations, choice and refusal of patients
- percentage of the premium that the group pays that ends up in your hands may be greatly reduced by administrative fees and profit margins for the promoters.
- there may be adverse selection, especially those who've never had coverage before because in a dual choice plan, a capitation plan looks to be the cheapest
- often claims administration is reduced – no claim form, no pre-determination, however, there is still a lot of paperwork i.e. reporting forms, etc.
- there's a loss of some degree of independence; you have to provide extended office hours, the referral specialist is often limited or at least limited to a specific roster of specialists. You often may be required to do more specialty care and there are office reviews and audits.

DR. CHARLES J. BURSTONE DELIVERS GRIEVE LECTURE

Dr. Charles J. Burstone, Professor and Chairman, Department of Orthodontics, University of Connecticut School of Dental Medicine, maintained the high standard of the CDA's Grieve Memorial Lecture presenters, established by a long line of distinguished dental professionals of international stature.

His subject, at the 1987 CDA/ODQ Conjoint Convention in Montréal was: "New Developments in the Application of Biomechanics to Clinical Orthodontics."

Chairman of the event was Dr. Oleg S. Kopytov of Montréal, President of the Canadian Association of Orthodontists, who introduced Dr. Burstone.

CDA President Dr. John R. Robertson, right, presents a framed certificate to Dr. Charles J. Burstone, in appreciation of his presentation of the Grieve Memorial Lecture.

Abstract of presentation

Through the courtesy of Dr. Burnstone, an abstract was made available to this Journal. The text follows.

Orthodontics requires an orderly sequence if treatment is to be optimized. The sequence begins with a thorough data base and is followed by the development of treatment goals and a sound biomechanical plan for treatment. It is only then, that therapy is begun. A common error in orthodontic treatment is to have inadequate treatment planning. During this presentation we will look at some orthodontic problems that could be treated by the general practitioner, emphasizing both the problems and solutions.

Anterior and posterior crossbites could be skeletal or dental in nature. It is the dental crossbites that are most suitable for simpler forms of therapy. The principles of differential diagnosis are discussed. Growth is particularly important in determining the severity of an anterior crossbite, since future mandibular growth may increase the skeletal discrepancy. The biomechanics of crossbite correction from simple removable appliances through fixed appliances is discussed.

Not all anterior diastemas are treated identically. Differential diagnosis demonstrates that some are produced by tooth size discrepancies and others by flared incisors. Treatment planning for these patients must be tailored to the individual needs of the patient.

Some of the pitfalls of early treatment are discussed. Special concern should be given to the position of unerupted teeth so that iatrogenic root resorption does not occur.

Some orthodontic cases require the extraction of permanent teeth. Is there a role for serial extraction? Some of the principles to be considered for proper space closure in order that anchorage is controlled and good axial inclinations are present at the end of treatment are discussed.

Why have open bites been difficult to correct and to stably maintain? The complex differential diagnosis of the open bite and treatment modes from functional training through orthognathic surgery are considered.

If primary molars are lost, it may be necessary to tipback the posterior teeth. The biomechanics of tipback are discussed, with particular reference to methods that do not produce undesirable flaring of the anterior teeth. Rather than using mesio-distal forces, intrusive forces on many patients offer minimal side effects in regaining space.

Is there a science to space maintenance? Rather than arbitrarily placing space maintainers, can estimates be made of the space required for erupting teeth? Some of the fallacies of simplified arch length analyses are discussed. The fallacies of some cherished concepts such as "leeway space", "mesial drift" are discussed.

The actual mechanical therapy may be precisely carried out but must be based on scientifically derived treatment goals that are biomechanically sound.

Professional achievements

Dr. Burstone is a man of broad professional achievement in other fields, in addition to dentistry and dental specialties.

He also serves as Professor of Mechanical Engineering in the School of Engineering, University of Connecticut, and is a member of the Institute of Material Science, of the same University.

A graduate of the Washington University School of Dentistry in 1950, he received his MS degree in Orthodontics from the Indiana University School of Dentistry in 1955.

From 1956 to 1970, Dr. Burstone was Chairman of the Department of Orthodontics at Indiana University, and he has held his present offices at the University of Connecticut since 1970.

He has been the recipient of a number of international awards in Orthodontics and in research, is a Fellow of the American Association for the Advancement of Science and a Diplomate of the American Board of Orthodontists.

Widely published

Dr. Burstone has published more than 70 papers related to clinical orthodontics and research. He has developed the segmented arch technique and pioneered in the development of biomechanics in orthodontics. He was also the first to use laser holography in dentistry, studying the relationship between forces and tooth movement. In

addition to orthodontic subject matter, Dr. Burstone has also published papers in the areas of growth, endocrinology, orthognathic surgery, soft tissue factors in treatment planning and computerized treatment planning.

He has lectured throughout the world, presenting courses and seminars on clinical orthodontics.

CDA/DENTSPLY STUDENT CLINICIAN PROGRAM

The seventeenth CDA/Dentsply Student Clinician Program was held in conjunction with the 1987 Joint Convention of the Canadian Dental Association and l'Ordre des dentistes du Québec from May 25 through 28 in Montreal. The program was again sponsored by Dentsply Canada, Ltd., through a special grant made to the Canadian Fund for Dental Education.

This year's program for Canadian students featured ten student table clinics and all Canadian dental schools were represented. Students received an expense-paid trip to Montreal to present their table clinics after placing first in their school's individual student clinician program.

Under the definition established by the Canadian Dental Association Council on Education, a table clinic is a table top demonstration of a technique or procedure concerned with some phase of research, diagnosis or treatment as related to the profession of dentistry.

The high calibre of this year's student clinics produced a tie for the Second Place Award and two were presented. Mr. Ernie Lam of the University of British Columbia claimed a Second Place Award for his clinic titled "Imaging jaw architecture by magnetic resonance." Mr. Raju Bhargava and his co-clinician Mr. Cam Roberts also claimed a Second Place Award for their presentation on "Glass ionomer cements and microleakage." Miss Sandra L. Zakarow of the University of Western Ontario earned the First Place Award for her clinic on "The porcelain laminate bridge — a new alternative." Messrs. Lam and Bhargava each received a cash award of $150 and Miss Zakarow has been invited as an observer to attend the 128th Annual Session of the American Dental Association at Las Vegas, Nevada, during October 10-13 as an honored guest of Dentsply International.

Other students participating, their schools and clinic titles were: Ben Balevi, McGill University — "Scanning electron microscope of periodontal curette's cutting edge after wear and sharpening"; Francois Chartrand, University of Montreal — "L'Odontotomic prophylactique"; Jacques Girard, Laval University — "Incrustations

DID YOU KNOW?

by Dr. Ralph Crawford

AWARDS

"Be not afraid of greatness; some are born great, some achieve greatness, and some have greatness thrust upon them."
(Twelfth Night, Act 2, Scene 5)

DID YOU KNOW? From the dawn of time there have existed numerous methods to recognize worthy deeds . . . to pay homage to those who contribute to the well being of their fellow man. Many awards are household words. The Order of Canada, honorary degrees, halls of fame, honour rolls, etc.

DID YOU KNOW? The Canadian Dental Association has its own system for recognizing those individuals of the Dental Community who have made contributions that were beneficial not only to the profession itself but to the community at large. There is a formal, designated method for the seeking out, the receiving, and the presentation of the CDA Honours and Awards. . .

***HONOURARY MEMBERSHIPS:** Honourary Membership is the highest award of the Association. Its purpose is to recognize the individuals deemed to have made outstanding contributions to the art and science of dentistry, or to the dental profession, over a sustained period of time. This award may be for service that is provincial, national or international in nature.

***DISTINGUISHED SERVICE AWARD:** This award may be given to a dentist or other person to recognize either an outstanding contribution in a given year, or outstanding service over a number of years. It may also recognize outstanding contributions to the dental profession at the corporate, specialty society, council or committee level.

***AWARD OF MERIT:** The recipient of this award must be a dentist. The award will be conferred upon an individual CDA member who has served in an outstanding capacity in the governing of the Canadian Dental Association.

***CERTIFICATE OF MERIT:** This award is to recognize any special service at any level of dentistry within the country. In general, it will be reserved for dentists and other persons who have given at least one full term of service in such areas as councils of the Association, or long-standing service at the corporate or special society level.

The nomination of the above Awards is initiated by a Sub-Committee of the Council on Nominations, Awards and Prizes are referred to the Executive Council for approval. The Sub-Committee encourages *all* members of CDA to suggest worthy recipients for the appropriate "Thanks for a Job well done!".

DID YOU KNOW? The CDA this year established the CDA "President's Award", worth $250 to be awarded to a graduating student in each of Canada's ten dental faculties. Each recipient must have shown outstanding qualities of leadership, scholarship, character, and humanity. The recipient may be expected to have a distinguished career in the dental profession and society at large.

DID YOU KNOW? (Historically) A Canadian dentist was an aviation pioneer who rivalled the Wright Brothers? William Greene, MD, DDS, was conducting aerodynamic experiments in Rochester, New York during the early 1900's. He was the first person to fly over 500 feet in a heavier-than-air machine, and for the first time in the history of aviation piloted a craft that carried two passengers. Dr. Greene began to produce aeroplanes commercially but fate determined that J.P. Morgan backed the Wright Brothers with unlimited funding.

Disappointed, Dr. Greene settled in Lethbridge, Alberta, where he practiced dentistry and developed a homestead. The USA Defense Department called him to Washington in 1917 to design aircraft that would beat the Germans in "a war that was to end all wars". (Dominion Dental Journal, Volume 30, 1918).

(Photos courtesy of Dentsply International)

Participants and sponsors of the 1987 CDA/Dentsply Student Clinician Program gathered for this photograph following the Dentsply Canada Reception and Dinner honoring the students. They are, seated (l. to r.) Sandra L. Zakarow, University of Western Ontario; Dr. John R. Robertson, President of the Canadian Dental Association; Patricia Lecomte, University of Manitoba; Mr. Burton C. Borgelt, President and Chief Executive Officer of Dentsply International; Jane Porter, Dalhousie University; and Raju Bhargava, University of Saskatchewan. Standing (l. to r.) are Ben Balevi, McGill University; Cam Roberts, University of Saskatchewan; Grant MacColl, University of Toronto; Francois Chartrand, University of Montreal; Jacques Girard, Laval University; Ernie Lam, University of British Columbia; and Michael Slipchuk, University of Alberta.

Mr. Burton C. Borgelt, Dentsply President and Chief Executive Officer, offered welcoming remarks to the dinner guests on behalf of the sponsors.

Dr. J. Fred Reid, Chairman of the Board of Trustees of the Canadian Fund for Dental Education, expressed his great pleasure with the Program.

en resine composite''; Patricia Lecomte, University of Manitoba – ''Why do more smooth surface caries occur bucally than lingually?''; Grant MacColl, University of Toronto – ''Radiographic assessment of osseointegrated dental implants''; Jane Porter, Dalhousie University – ''Oral complications in hemotologically compromised patients''; and Michael Slipchuk, University of Alberta – ''Leakage comparing $ZnPO_4$ vs. bonding resin cementation of etched dowels.''

A reception and dinner honoring student clinicians was hosted on Monday evening, May 25 by Mr. Burton C. Borgelt, President and Chief Executive Officer of Dentsply International, representing the sponsors. The dinner was held at the Hotel Meridien and was attended by approximately seventy-five persons including student clinicians, deans, faculty program advisors and special guests representing the dental profession and dental education.

Distinguished guests at the head table included Dr. and Mrs. John R. Robertson, President of the Canadian Dental Association; Dr. and Mrs. Ron J. Markey, President-elect of the Canadian Dental Association; Dr. J. Fred Reid, Chairman of the Board of Trustees of the Canadian Fund for Dental Education; and Dr. And Mrs. John S. Olmsted, President of The Alumni Association of Student Clinicians – American Dental Association (SCADA).

The student clinicians presented their clinics for the benefit of those attending the Convention on Tuesday, May 26 at the Montreal Convention Centre.

DR. RALPH BAROLET NAMED NEW DEAN AT McGILL

On Monday, May 25, the Board of Governors of McGill University in Montreal, named Dr. Ralph Y. Barolet as the next Dean of its Faculty of Dentistry effective August 15th, for a five year term. Dr. Barolet replaces Dr. Kenneth C. Bentley who has been Dean of the faculty for the last ten years.

Prior to his appointment, Dr. Barolet was Professor at the School of Dental Medicine of Laval University in Quebec City. At this location, he served in various positions from Associate Dean to Chairman of Admissions. He was also responsible for the teaching of Biomaterials.

Dr. Barolet graduated with a DDS degree in 1970 from the University of Montreal. He then went on to do graduate work in dental materials at Indiana University obtaining his MSD degree in 1972. Prior to studying dentistry, he worked as a project engineer in the petrochemical industry after graduating in Chemical Engineering from McGill University in 1954.

Very active in CDA

Dr. Barolet is very active in the affairs of the Canadian Dental Association. He is Chairman of the Council on Dental Materials and Devices as well as Chairman of the Committee for Consumer Product Acceptance. He has served as a member of several of the Accreditation teams that are sent to review undergraduate teaching programs.

Dr. Ralph Barolet

Dr. Barolet is active in many of the associations of organized dentistry. He is a member of the International Organization for Standardization's Committee on Dentistry as an official Canadian delegate. He is a member of the Intercommission Working Group on Relations between the Profession, Trade and Industry of the Fédération Dentaire Internationale as well as a member of the Technical Committee on Dentistry of the Canadian Standards Association.

He is a Fellow of several professional societies including the International College of Dentists, the Academy of Dental Materials, the Academy of International Dental Studies and the Academy of Dentistry International.

He has lectured in Asia, Africa, Europe and America on subjects ranging from dental biomaterials and ergonomics of the working dentist to occupational hazards in the dental office.

His research activities have been mainly concentrated in the field of clinical trials of various dental materials and devices.

(Photos courtesy of Dentsply International)

Drs. Ralph Barolet and Kenneth Bentley are seen just prior to the official announcement of Dr. Barolet's appointment as Dean of the Faculty of Dentistry at McGill University. Left to right are: Mrs. Barolet, Dr. Barolet, Mrs. Bentley and Dr. Bentley.

DR. KENNETH C. BENTLEY STEPS DOWN AS DEAN

Kenneth C. Bentley, DDS, MD, CM, Dean of the Faculty of Dentistry, McGill University, Montréal from 1977 to 1987, will return full time to hospital dentistry as Surgeon-in-Chief at the Montréal General Hospital, and as Vice-Chairman of the institution's Executive Committee.

A graduate of McGill University with a DDS in 1958, Dr. Bentley then pursued medical studies and earned his MD and CM degrees in 1962.

He plans to also return to full-time teaching (Oral and Maxillofacial Surgery) at McGill's Faculty of Dentistry. Dr. Bentley served as Professor of that specialty from 1975 until his appointment as Dean in 1977.

Born and raised in Montreal, Dr. Bentley attended elementary and high schools there, and began studies in Arts at McGill. He switched to dentistry after his second year.

Following his medical doctorate in 1962, he was Junior Rotating Intern at the Montréal General Hospital until the following year, when he became Junior Assistant Resident (Surgery), until 1964.

He was the recipient of a Canadian Fund for Dental Education Fellowship for 1964-66 and served, in 1964-65, as Resident in Oral Surgery at the Bellevue Hospital, New York City. In 1965-66, he served at the same hospital as Chief Resident (Oral Surgery).

University appointments

Dr. Bentley was named Assistant Professor, Department of Oral Surgery at McGill's Faculty of Dentistry in 1966 and the following year, became Chairman of that Department. In 1968 , he was elevated to Associate Professor and also was named Director of the Division of Surgery and Oral Medicine.

Dr. Bentley began to serve as Director of the Graduate (MSc) Program in Oral Surgery in 1970. He assumed full professorship in Oral and Maxillofacial Surgery in 1975.

Awards and honors

He has been awarded many distinctions and honors, among them, Fellowships in the International College of Dentists (1971); the American College of Dentists (1974); Academy of International Dental Studies (1983), and an Honorary Fellowship in the Royal College of Dentists of Canada (1983).

Dr. Bentley is a member of the Pierre Fauchard Academy and an Honorary Member of the W.F. Harrigan-Bellevue Oral Surgery Alumni Association.

He was a recipient of the prestigious Arnold K. Maislin Award of New York University, in 1984.

Much service to CDA

Dr. Bentley has served as a very active member of the Canadian Dental Association on its Committees and Councils.

He was Chairman of the Council on Hospital Services from 1971 to 1975 and chaired the Council on Education and Accreditation from 1982 to 1985. He also offered valued leadership as Chairman of the Committee on Documentation (1983) and the Committee on Continuing Education (1985).

The Canadian Association of Oral and Maxillofacial Surgeons has also enjoyed his counsel and leadership. Dr. Bentley has served as Secretary-Treasurer, Chairman of the Scientific Program for the Joint CSOS-ASOS meeting in 1969, and Chairman of Dental Services in 1971-72.

He has also served as President of the Association of Canadian Faculties of Dentistry (1974-76), and as an examiner for the Royal College of Dentists of Canada.

In his home province, Dr. Bentley has been an active member of the Association of Oral Surgeons of Québec and l'Ordre des dentistes du Québec.

His papers have been published internationally and he has secured several major research grants for studies related to cancer and treatment for oral surgery pain.

Accomplished organist

Dr. Bently has long had a keen interest in music, and is an accomplished organist. He has contributed much to the music of worship at Queen Mary Road United Church, where he has served as Chairman of the Board of Trustees since 1982.

He is married to the former Jean Wadsworth and the couple have a family of two; Douglas, 19 and Margaret, 17.

DALHOUSIE SHOWS GRATITUDE TO ILLUSTRIOUS FORMER DEAN

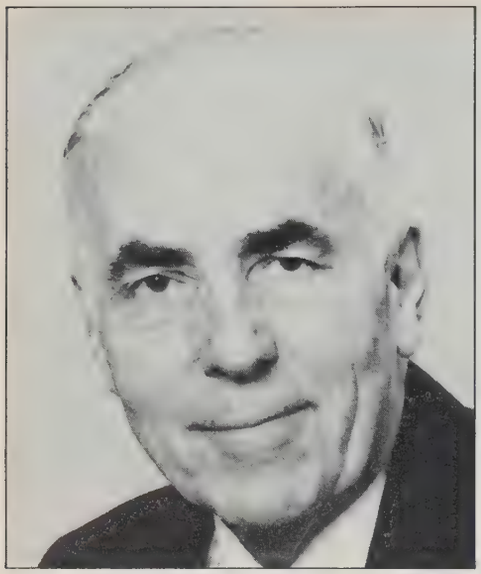
The Faculty of Dentistry of Dalhousie University owes a hugh debt of gratitude to Dr. James Douglas McLean.

At the spring convocation, the Faculty and University provided tangible evidence of that gratitude, in awarding an Honorary Doctor of Laws degree to the man who served as Dean of Dentistry from 1954 to 1975, a period in which the Faculty made remarkable progress.

Dr. McLean had also served Dalhousie as Professor of Dentistry in 1953, and after his service as Dean ended in 1975, he continued as Professor of Dentistry until his retirement, in 1985.

Native of Regina

A native of Regina, Saskatchewan, Dr. McLean studied at Regina College, University of Saskatchewan. When he completed



Dr. James Douglas McLean

his pre-dental studies, he enrolled in dentistry at the University of Toronto and gained his DDS there in 1942. He pursued post-graduate studies in Restorative Dentistry at the University of Minnesota in 1946.

During the Second World War he served in the Royal Canadian Dental Corps from 1942 to 1946, in Canada, Britain and Northwest Europe.

Following his war service, he established a private practice in Regina and in 1947, he joined the Faculty of Dentistry of the University of Alberta and continued to practice on a part time basis, in Edmonton.

Dr. McLean has been hailed as "an innovator in dental education." He engaged faculty members with expertise in a wide variety of subject areas because he believed this was essential for efficient teaching. In his early days as Dean, he recognized the importance of oral hygiene and established a program to train professionals in this discipline.

Because of the development of the faculty, not only in terms of members, but also in teaching and research, more accomodation became necessary and he initiated the planning which resulted in two new dental buildings, one of which opened in 1958 and the other in 1980.

His active interests spread beyond dentistry. He has served as President of the Halifax Branch, the Nova Scotia Division and the national Canadian Red Cross Society, President of the renowned Neptune Theatre's Board of Governors, Chairman of the Canadian Bible Society (Nova Scotia) and Chairman of the Pine Hill Divinity Hall Board of Governors.

Dental needs still unmet

In his Convocation address, Dr. McLean said that when the first dental graduates left Dalhousie 75 years ago, there was one dentist for every 4,000 Canadians. By the 1940s, that ratio had dropped to one for 3,000 and today, about one for every 1,800.

Even back in the 1890s, he said, there were commentators preaching that economic depression meant there was overcrowding in the fields of dentistry and medicine, Dr. McLean said.

Economic downturns can distort the dental manpower picture, he said. In those periods, "many people perceive that it is possible to defer seeking services. . . leading some to perceive a possible oversupply of practitioners."

However, Dr. McLean told the graduates, the need for dental services "is far from being fully met in our population."

NATIONAL POSTER CONTEST WINNERS ANNOUNCED

Entries in the National Dental Health Month Poster Competition this year showed a wealth of talent, imagination, and evidence that the budding artists were thoroughly familiar with all aspects of good dental health practices.

Entries from the local level were judged at the provincial level, and the best were sent, by six of the 10 provincial groups, to Canadian Dental Association headquarters in Ottawa.

CDA's Council on Information Services then had the difficult task of deciding on the top national posters in each of three categories: Kindergarten and Grade One, Grades Two to Four and Grades Five to Seven.

The Winners

Lloyd Taggart, of Bass River, Nova Scotia, won the top prize in the Kindergarten-Grade One class. His colorful, full-illustrated poster emphasized all the basics required to "Look after your teeth."

Michael Yubuta, of Scarborough, Ontario, won in the Grades Two to Four class. His was a very neat and uncluttered depiction of how one should take his time to do a really effective job brushing one's teeth.

Christa Sable, 11, of Kamarno School, who lives near Gimli, Manitoba, won the senior category (Grades Five to Seven), with a humorous and graphic depiction of a tooth being very completely cleaned in a bathtub, and exhorting the viewer to: "Make the 'Good for Life' Pledge."

All three of the national winners received a cheque in the amount of $175, to be used for the purchase of a new bicycle.

AD LIB

By Cuspid

WOMEN IN DENTISTRY

Women dentists in North America have been, if you'll excuse the expression, as scarce as hens' teeth . . . with only a pitiful 3.5 per cent of practising dentists being of the female persuasion. This is in great contrast to Russia, Finland and Latvia, where 80 per cent of dentists are women, China and Greece where the figure is approximately 50 per cent, and Scandinavia where it is roughly 25 per cent.

But things are changing. Even though it has been said that in the early 1900s there were more women dentists proportionately than there are now, the fact remains that 20 per cent of the dental students in the United States – and, one might reasonably extrapolate, in Canada – are women.

Who goes to women dentists? Well, if they are likely to fall into the same modes as their colleagues in medicine . . . it can be shown that women, younger age groups and blacks show a higher preference for female physicians than do men and older patients.

And yet, a study reported in the *Journal of the American Dental Association* (June 1985) showed that few differences were found in the sociodemographic characteristics of patients of male and female dentists . . . although patients of female dentists believed that the dentist was more accessible. There's also a prevailing sense that women dentists are gentler and more nurturant, better with their hands and more attentive to detail than their male counterparts.

But alas, on a more pragmatic basis, there is evidence to show that women dentists earn less than their male colleagues. This may be in part because less than 8 per cent of women dentists are specialists compared with almost 13 per cent of males and only 4 per cent of women specialists are oral surgeons, compared with more than 23 per cent of male specialists. It has also been shown that the problems faced by women entering the dental profession are similar to those faced by their women colleagues in medicine. Women dentists, like their physician counterparts, work consistently fewer hours per week than their male colleagues. Less than 5 per cent of male physicians work less than 40 hours per week, whereas 25 per cent of women physicians work less than 40; moreover, women in medicine and dentistry tend to look to employment opportunities rather than entrepreneurial situations . . . and to secure, less than full-time positions.

Despite being still occasionally mistaken for the receptionist or the dental assistant, women dentists are dramatically changing their profession. Having entered the profession in such rapidly increasing numbers, the next step may well be to influence dentistry's direction by becoming involved in the teaching of dentistry, in contributing to the dental literature – and getting into the fray of dental politics.

DENTAL AWARENESS PROGRAM UPDATE

DENTAL HEALTH MONTH

The story gets better. . .

April was Dental Health Month – and this year, with the *Good For Life Pledge*, we not only built on the solid foundations of last year's information-based program, we also shifted the focus of our promotional activities from simple awareness to action. And, as the reports continue to file in, it is evident that *The Pledge* is an idea that worked.

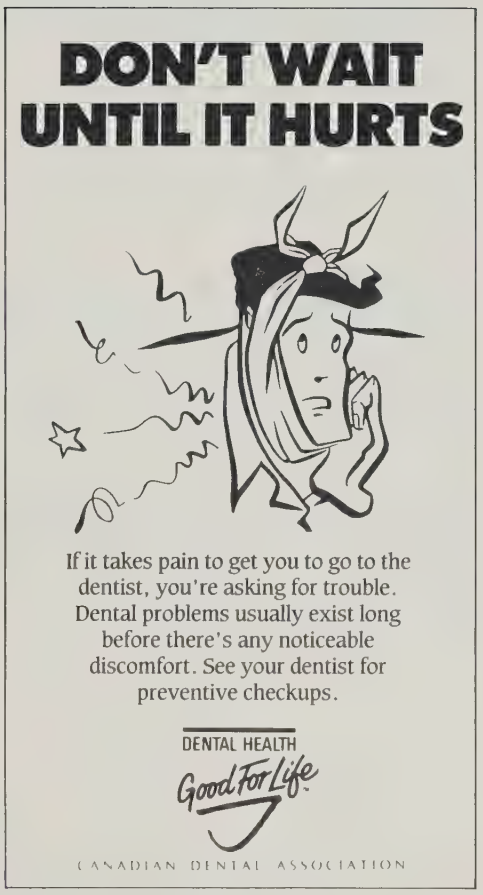
Increased Media Commitment

Once again, media commitment to Dental Health Month increased dramatically. Print media coverage for the month increased approximately 80% over 1986 figures and eclipsed 1985 figures by an estimated 300% – a tribute to all those involved.

Bob's Teeth, the new radio Public Service Announcement for Dental Health Month 1987, was greeted with overwhelming response – 170 cassettes were sold in 1987, compared to 58 cassettes of last year's spot that were sold and aired. It represents a whopping increase of 193%. Although CDA does not receive reports from all radio stations airing public service DHM spots, thanks go out to stations such as 1200 CKDA and 98.5 CFMS of Victoria, British Columbia, which played the spots 92 and 60 times respectively, and stations in North Bay, Kitchener, and Kirkland Lake, Ontario which broadcast the spots 30, 11, and 19 times respectively.

On other fronts, receptivity to Dental Health Month material was also greater than ever. Leading the way were poster sales (up 52% since 1986) and buttons (up 10%). Also included in the Dental Health Month Planning Kit was an order form for materials which included, for the first time, the newly developed Fact Sheet series on Dental Health. The Fact Sheets, available for order by the dentist, cover such topics as "Managing A Sweet Tooth" and "Changing Your Dental Habits".

Our appreciation goes to Warner-Lambert for their support of the Good For Life program. Warner-Lambert sales representatives hand-delivered Dental Health Month kits containing Good For Life posters, buttons and decals to over 3,000 pharmacies right across the country – the program reaffirmed the pharmacist's vital role in promoting dental health to Canadians.



Provincial Highlights

Manitoba's Dental Health Month activities were launched with a splash and they never slowed down. Opening day started with a tour of local radio stations; radio announcers were presented with copies of *Bob's Teeth* and many, after playing the spot, took the *Good For Life Pledge* on the air. The day continued with a press conference featuring Manitoba's Minister of Health, a representative of the City of Winnipeg, and an officer from the Department of National Health and Welfare representing the Minister, Jake Epp, as well as local sports and media celebrities. The month's overall success is still being registered as the Manitoba Dental Association continues to receive filled Pledge Posters from towns as remote as Thompson.

"It was the most successful Dental Health Month in **Quebec** during the past five years and one of the most successful ever", said Jacques Richer, Director of Communications for the Order of Dentists of Quebec. One example was the tremendous effort put forward by the Federation of Dental Societies of Greater Montreal at Le Salon de la Jeunesse (April 8-12). Over the four day period, 40 Good For Life Pledge posters were filled with signatures topping an estimated 16,000 names. Furthermore, an estimated 30,000 ODQ stickers and 500 buttons were distributed and 800 visitors were examined on-site by dentists and dental students.

The *Pledge Poster* was a great success in **Ontario** and was used in a variety of innovative programs. Local societies in the Brockville/Kingston/Cornwall regions organized information sessions with the cooperation of local schools. As a show of understanding and commitment to the pledge, students were asked to sign their names to the poster. The filled posters were then used as a drawing card at local mall exhibits. Children brought their parents to the exhibits to identify where they had taken the pledge and, in turn, parents learned about their own dental health.

In **New Brunswick**, an inter-city challenge was the cornerstone of events. A one day phone-a-thon between Fredericton and Saint John took place. The cities competed to see which could get a greater number of their citizens to call in and take the Pledge to keep their teeth Good For Life. The event, publicized in local newspapers, was won by Saint John which received 1,700 pledges to Fredericton's 400. The competition is

another example of the many innovative and successful approaches to dental health promotion.

These are just a few of the many successfully run programs. If you have success stories of your own, please write us and let us know so that we can share them with others. The address is:
Dental Awareness Program
1815 Alta Vista Drive
Ottawa, Ontario K1G 3Y6

CHECKUP CHECKS IN . . . AGAIN

The Checkup, a bright, 12-page publication featuring test-yourself questions and answers about dental health, was, once again, a major public-education feature of Dental Health Month.

As a supplement in the May Chatelaine, the Checkup's distribution topped an estimated 1.4 million copies. (1.1 million English – 300,000 French). With additional packages of 10 Checkups and one copy of Chatelaine being distributed to all CDA members, it is estimated that the Checkup reached over 4 million Canadians.

The CDA thanks Colgate for once again coming through with over $300,000 in sponsorship money to make the Checkup possible.

CONSUMER'S GUIDE TO DENTAL CARE

The national launch

Launched in April of 1987, the CDA's *Consumer's Guide to Dental Care* is off and running. Designed as a tool to contribute to a better understanding and working relationship between the consumer and the dental profession, the booklet was delivered right across the country.

Dr. Don MacFarlane, Chairman of the Third Party Dental Plans Committee, is very positive about the project to date. Says Dr. MacFarlane, "The product itself is excellent and this has been reflected in the positive response from patients."

Cooperative Funding Effort

The Consumer's Guide campaign is the first national advertising campaign launched by the dental profession. Cooperatively, the provinces contributed to the advertising campaign to a total of over $400,000.

While it is still early to judge numbers, initial public response to the CDA advertising campaign has been good. In the first 3½ weeks of the campaign (May 4-27), a total of 730 responses were received. Adjusting for differences in advertising exposure, these responses are about 1½ times higher than those in the Ontario pilot campaign.

Just a reminder that if you run out of your copies of The Consumer's Guide, more may be ordered for $35/100 from:
Order section
Canadian Dental Association
1815 Alta Vista Drive
Ottawa, Ontario
K1G 3Y6

DENTAL AWARENESS IN OFFICE FIRST SEMINARS IN MANITOBA

The Canadian Dental Association in cooperation with provincial dental associations is working to provide the profession with seminars on dental awareness in the office – the first are scheduled to be held in Manitoba in September.

Dr. Ken Skinner, President of the Manitoba Dental Association, believes that the seminars will serve two important functions: The first is to help dentists answer the increasing number of patients' questions that have resulted from heightened public awareness. And second, to help dentists better manage the strengthening patient/dentist bond which has resulted from the continued shift to preventive dentistry.

NEW FACT SHEET PADS

QUANTITY/SUBJECT **PAYMENT ENCLOSED**

- ☐ A) Changing Your Dental Habits _____
- ☐ B) How to Choose a Dentist _____
- ☐ C) Tips for Tooth Troubles _____
- ☐ D) How to Talk To Your Dentist _____
- ☐ E) Don't Wait Till It Hurts _____
- ☐ F) Advice for Parents _____
- ☐ G) Managing a Sweet Tooth _____
- ☐ H) Gum Disease: Why Your Teeth Need Support _____
- ☐ I) Growing Up: How Your Dental Needs Change _____
- ☐ J) Facts About Dental Health _____

TOTAL _____

COST: $5.00 per pad of 100 sheets/CDA members
$6.25 per pad of 100 sheets/Non-members

SHIP TO:

_____
Name
_____
Address
_____
_____
Postal Code Telephone CDA Membership #

MAIL ORDERS:
Payment **must** accompany this order. Please make cheques payable to the Canadian Dental Association. Return your completed form to:
CDA Order Section
1815 Alta Vista Drive
Ottawa, Ontario
K1G 3Y6

Telephone Orders: Contact CDA at (613) 523-1770

☐ Cheque Enclosed
☐ Visa ☐☐☐☐■☐☐☐■☐☐☐■☐☐☐☐
☐ MasterCard ☐☐☐■☐☐☐■☐☐☐■☐☐☐☐
Expiry Date _____

Briefly

At the Atlantic Provinces Dental Executive Meeting held in the spring, this group of presidents gathered for a group photograph. Left to right in the photo are: Dr. Maurice Coady, President of the Dental Association of Prince Edward Island, Dr. John R. Robertson, President of the Canadian Dental Association; Dr. Ian Vogan, who was Chairman of CDA Convention '86 in Halifax and received a CDA Certificate of Merit from Dr. Robertson for his achievements; Dr. Jim Flynn, President of the Newfoundland Dental Association; Dr. Roger Porter, President of the Nova Scotia Dental Association, and Dr. Jim Roxborough, President of the New Brunswick Dental Society.

(Photo: Courtesy of D.V. Pamenter, Executive Director, NSDA)

At the recent general meeting of the Mount Royal Dental Society – Alpha Omega Dental Fraternity of Montréal, the 1987-88 Slate of officers was elected.

The new President is Dr. William Steinman, the Vice-President is Dr. Michael Tenenbaum; the new Corresponding Secretary is Dr. Sam Israelovitch, while the Recording Secretary is Dr. Marvin Werbitt. The Treasurer is Dr. Mel Schwartz, the Editor is now Dr. Morrie London. Dr. Marvin Steinberg is the Immediate Past-President.

Dr. Steinman, who was born in Montréal is a graduate of the Faculty of Dentistry at McGill University and has been in general practice for 14 years.

CDA members are now eligible for car rental discounts with the Hertz car rental company.

Some examples of the rates available to CDA members are: Ford Escort 2-door, $37 per day; Mercury Lynx 4-door, $37 per day, Ford Tempo, $38 per day, Ford Thunderbird, $39 per day and Ford Taurus, $39 per day. These unlimited kilometre/mileage rates are available at participating airport and downtown locations when the car is returned to the originating city. In some cases and on one way rentals, higher rates or kilometre/mileage charges may apply. The rates and discounts do not include gasoline, local taxes, optional Collision Damage Waiver, Personal Accident Insurance or one-way drop off fees. The rates were effective March 1, 1987.

CDA members who have not received a card with their membership can obtain their discount card from CDA headquarters, at 1815 Alta Vista Drive, Ottawa, Ontario, K1G 3Y6.

At a recent supper meeting of the Québec (City) Dental Society, the President, Dr. Guy Valois and Vice-President, Dr. Paul-René Minville, with the full support of their executive members, paid tribute to the service of six colleagues to their community.

Honored were Drs. Yves Poulin, Raymondien Ouellet, Marcel Rochefort, Jean-Guy Binet, Roland Lemieux and Guy Maranda, all of them marking 25 years in the practice of the dental arts in the region of Québec City.

To mark the occasion, a souvenir plaque, noting their "quarter of a century" of practice was presented to each on behalf of the members of the Society.

Drs. Sidney Konigsberg and Stephen Miller of Montréal and Pointe Claire, Québec, respectively, have successfully completed all phases of the American Board of Orthodontists' comprehensive examination for certification in Orthodontics.

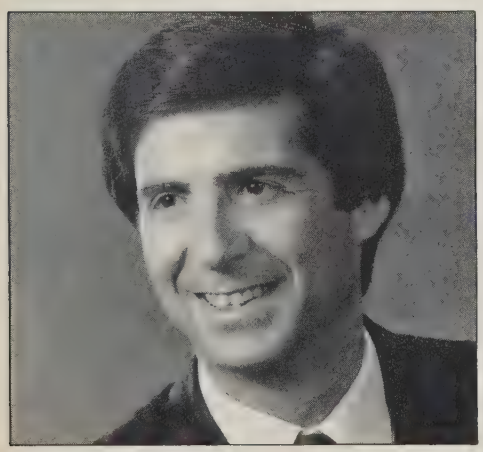
Both men are graduates of the Faculty of Dentistry of McGill University, Montréal. Dr. Konigsberg received his specialty education in Orthodontics from Tufts University and Dr. Miller from the University of Oregon.

Both are also members of the American Dental Association and the American Association of Orthodontists.

Dr. Miller is a member of the Faculty of Dentistry of McGill University as a lecturer and Dr. Konigsberg is an associate professor.

Dr. Konigsberg conducts a specialty practice in Orthodontics in Montréal and Dr. Miller's specialty practice is in Pointe Claire, a suburban community west of Montréal.

The American Board of Orthodontics is recognized by the American Dental Association as the only certifying board in the specialty of Orthodontics.



Dr. William Steinman

CORRECTION

In a news story in the July edition of JCDA, Page 503, "ODA dealing with 'new and unprecedented changes' an erroneous reference appeared, to the effect that the outgoing ODA President, Dr. Bernard Dolansky was "an Ottawa orthodontist."

Dr. Dolansky is, in fact, an "Ottawa endodontist."

The JCDA editorial staff regrets this error and any confusion or discomfort it may have created.

Dr. Sidney Konigsberg

CANADIAN DENTAL ASSOCIATION

TAXATION SEMINAR

OCTOBER 2, 1987

CHATEAU HALIFAX • HALIFAX, NOVA SCOTIA

Dr. Robert N. Hicks of West Vancouver, Chairman of the CDA Taxation Committee, will chair a CDA Taxation Seminar in Halifax, Nova Scotia on Friday, October 2, 1987.

Presenters will include tax lawyers and accountants knowledgeable in the area of tax information as it applies to the dentist's financial activity in both practice and personal environments.

- ☐ Tax Reform
  - • Sales Tax
  - • The Value Added Tax
  - • Changes to personal exemptions and other allowable deductions
- ☐ Tax Implications in Financial Planning
- ☐ Tax Shelter Investing
- ☐ Income Splitting
- ☐ Tax Implications in Estate Planning
- ☐ Update on the Use of Corporations
  (Professional Management Companies, Personal Service Corporations)

PROGRAM OUTLINE

The Minister of Finance tabled a White Paper on Tax Reform on June 18, 1987. The CDA, in consultation with representatives from the Canadian Medical Association, the Canadian Bar Association and the Canadian Institute of Chartered Accountants, is reviewing the impact of this document and preparing submissions to Senate and House Committees in opposition to any inequitable treatment of the dental health professional or any negative impact on the overall cost of delivery of oral health care to Canadians.

The timing of this Seminar is such that it will afford an opportunity to access current information and advice in this most important area.

REGISTER NOW TO RESERVE YOUR PLACE

REGISTRATION FORM

Complete and Return and Cheques Payable to:
Canadian Dental Association
1815 Alta Vista Drive, Ottawa, Ont. K1G 3Y6

Name _____

Address _____ City _____

Province _____ Postal Code _____ Telephone _____

Payment:

- ☐ Cheque Enclosed
- ☐ Visa
- ☐ MasterCard

Expiry Date _____

Signature _____

Fees:

CDA Member: $100.00
Spouse or personnel accompanying a member: $75.00
Non-member: $150.00
(Including unaccompanied spouse or personnel)

(Includes Luncheon and Refreshment Breaks)

Accommodation:

Please call The Chateau Halifax (902-425-6700) directly, using the CDA name for prearranged preferential rates.
$80.00 single • $90.00 double

Cancellation Policy – Registration:

Cancellation before Sept. 1 – full refund.
Cancellation after Sept. 1 – 75% refund.
Cancellation after Sept. 14 – no refund.

Resource Centre de documentation

DENTIST-PATIENT RELATIONS

LES RELATIONS ENTRE PATIENT ET DENTISTE

1. Cohah, N.L., O'Shea, R.M. and Bissell, G.D. *The dentist-patient relationship: mutual perceptions and behaviors*. Journal of the American Dental Association, v. 113, no. 2, August 1986, pp. 253-255.
2. Corah, N.L. *Reduction of patient stress and the patient-dentist relationship*. New York State Dental Journal, v. 50, no. 8, October 1984, pp. 478-479.
3. Gale, E.N. and others. *Effects of dentists' behavior on patients' attitudes*. Journal of the American Dental Association, v. 109, no. 3, September 1984, pp. 444-446.
4. Grinberg, S. and Schor, M. *First encounter of child and dentist: an analysis of the introductory session*. Journal of Dentistry for Children, v. 51, no. 6, November-December 1984, pp. 438-440.
5. Handler, S.L. *Understanding the adolescent patient*. New York State Dental Journal, v. 50, no. 8, October 1984, pp. 480-482 and 484.
6. MacEntee, M.I. *The dentist and the older patient. A review of the relationship*. Journal of the Canadian Dental Association, v. 50, no. 9, September 1984, pp. 675-678.
7. Martin, B.J., Stewart, J.S. and Spencer, P. *An innovative approach to working with parents*. Journal of Dentistry for Children, v. 51, no. 6, November-December 1984, pp. 434-437.
8. O'Shea, R.M. and Corah, N.L. *The dentists' role in cessation of cigarette smoking*. Public Health Reports, v. 99, no. 5, September-October 1984, pp. 510-514.
9. O'Shea, R.M., Corah, N.L. and Tines, T.J. *Managing anxiety in the dental office*. Dental Assistant, v. 55, no. 6, November-December 1986, pp. 7-10.
10. Saltzman, B.B. *Let's keep our dental jargon understandable*. Dental Student, v. 63, no. 3, December 1984, pp. 19-20 and 42.
11. Salvatoriello, F.W. *The power of the thank you note*. Dental Economics, v. 76, no. 12, December 1986, pp. 54-57.
12. Stevens, H.P. and Deveny, C.D. *Understanding patients as consumers*. Journal of Clinical Orthodontics, v. 18, no. 11, November 1984, pp. 817-821.
13. Titus, H.W. *Patient-dentist interaction: reviewing significant variables*. Dental Student, v. 62, no. 7, April 1984, pp. 37-39.
14. Tryon, A.F. *Informed consent patient records and the doctor/patient relationship*. Journal of the American College of Dentists. V. 51, no. 2, Summer 1984, pp. 15-19.
15. Wright, L.C. *Why people change dentists*. Bulletin of the Eighth District Dental Society, v. 18, no. 4, December 1984, pp. 16-17.

One copy of the above articles is available at no charge from the library to all CDA members. Non-members will be charged $5.00. This bibliography was generated with the help of MEDLARS.

La bibliothèque de l'ADC offre gratuitement à ses membres et pour $5.00 aux non membres une copie des articles au-dessus. Cette bibliographie a été préparée avec l'aide de MEDLARS, un système informatisé de recherches bibliographiques pour les sciences de la santé. Ajouté à la bibliothèque en février 1982, ce système est à la disposition de tous les membres.

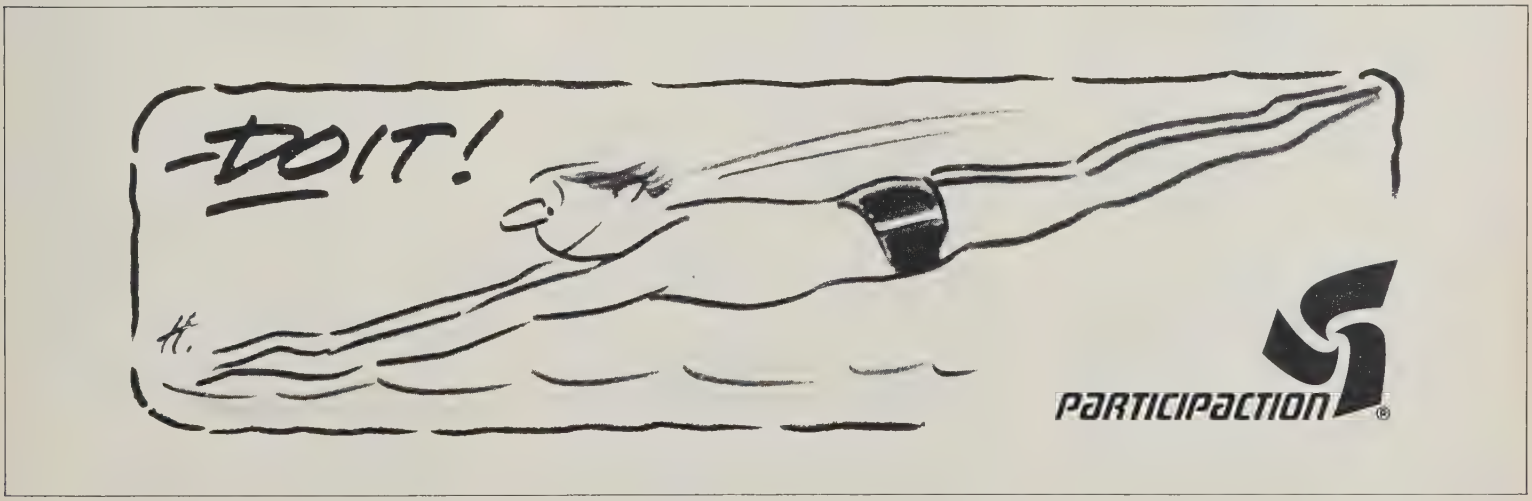
LIBRARY ACQUISITIONS

TITRES EN BIBLIOTHÈQUE

The following current acquisitions are available on loan from the Resource Centre/Library.

Les titres indiqués ci-dessous sont maintenant disponibles à la bibliothèque/centre de documentation de l'ADC.

1. Barr, Charles E. and Marder, Michael A. *AIDS: A Guide for Dental Practice*. Chicago: Quintessence Publishing Co., Inc., 1987. 127 p. 1 copy.
2. Feinman, Ronald A., Goldstein, Ronald E., and Garber, David A. *Bleaching Teeth*. Chicago: Quintessence Publishing Co., Inc., 1987. 102 p. 1 copy.
3. Fisher, Donald W. and Morgan, William W. *Modification and Preservation of Existing Dental Restorations*. Chicago: Quintessence Publishing Co., Inc., 1987. 208 p. 1 copy.
4. Little, James W. and Falace, Donald A. *Dental Management of the Medically Compromised Patient*. Toronto: C.V. Mosby, 1984. 317 p. 1 copy.



Book Reviews

COMMON DISORDERS OF THE TEMPOROMANDIBULAR JOINT

by Hugh D. Ogus and (the late) Paul A. Toller

PSG Publishing Company Inc. Littletown, Mass. Price $17.50

The essential nature of this book has fortunately not changed since the 1981 edition and the content still accurately reflects the title "Common Disorders of the Temporomandibular Joint." The book is 123 pages long, including the bibliography and index and contains 8 chapters.

The first chapter is a well-balanced summary of the structure and function of the temporomandibular joint with sections on embryology, gross anatomy, microscopic anatomy and physiology. The disorders described as common are the myofascial syndromes, internal derangements, osteoarthrosis and trauma. Except for trauma, the pathogenesis of the first three disorders are described in Chapter 2 and a unifying concept proposed for them in Chapter 5. The author has coined the term mandibular stress syndrome to describe the spectrum of temporomandibular joint disorders from myofascial syndromes at one end to osteoarthrosis at the other. Chapters 3 and 4 deal with the clinical and radiographic examination of the joint. Chapter 4 is a new addition by James Manzione and is an excellent discussion on temporomandibular joint radiology. Treatment is covered in Chapter 6 and 7 with emphasis on myofascial syndromes in Chapter 6 and internal derangements and osteoarthrosis in Chapter 7. Chapter 8 is a two page summary statement.

The second edition differs from the first by an expanded bibliography of 30 per cent to 114 references, more material on meniscal dysfunction and electromyography and of course the excellent new chapter on TMJ radiology. Some illustrations have been deleted and new ones added which complement the text much better. All the illustrations are of a high quality. References are a bit sparse in the sections on joint lubrication and hypnotherapy. There is an impression that the detailed descriptions on surgical technique and histopathology while useful, may be at the expense of material on the neurophysiology of normal jaw function and parafunction (bruxism) since the book is oriented towards general practitioners. The technique of plication has been deleted but unfortunately compensatory material on menisectomy has not been added.

A few minor typographical errors do not detract from the text. It remains a concise and excellent monograph on common TMJ disorders for the general practitioner with no serious shortcomings and is highly recommended as an introductory text on the subject.

This book was reviewed by
Stephen Ahing
U. of Manitoba

FORENSIC ODONTOLOGY — ITS SCOPE AND HISTORY

Hill I.R., Keiser-Nielsen S., Vermylen Y., Free E., de Valck E. and Tormans E.

eds., IOFOS, Great Britain, 1984. Can be purchased from: Ian R. Hill, The Old Swan, Swan Lane, Marshgibbon, Bicester, Oxon, OT6 0HH, UK

The United Nations has 144 member countries and one of its branch organizations, the International Civil Aviation Organization (I.C.A.O.) whose headquarters is in Montreal, has 156 member countries. With these figures in mind, the title of the book is somewhat misleading considering that only twenty five countries are represented in the book. One is left with the impression that, with few exceptions, the Western world has a monopoly on the expertise. This impression is not entirely the editors' fault as the balance of the countries have failed to respond to a call for information.

Of the 144 pages devoted to the 25 countries, Argentina, Czechoslovakia, Israel, South and Central America, Spain and Switzerland have either one or two pages of editorial comments or are simply referenced without comment. Several other countries are only relegated to three or four pages of text: Chile, Columbia and Korea.

Each country is authored by a different person. Presumably one would expect to have an accurate picture of that country's forensic and judicial history. On the first line of the chapter on the judicial history of Canada, as an example, such is not the case. There is one of two investigative bodies which look at circumstances, mode, manner and means of death in Canadian jurisdictions: the coroner's system or the medical examiner system depending upon the jurisdiction (province). Each is quite different from the other.

The editors have failed to produce some uniformity in referencing material at the end of the chapters. They are neither numbered nor are they arranged in alphabetical order by the author's name. There seems to be neither rhyme nor reason for this disorder. Even here, there are spelling mistakes of proper names (example: p. 236, "Cotton" instead of "Cottone"); the unheard of practice of placing the initials "D.D.S." after the author's initials (p. 120); the different methods of placement of the year of publication (p. 34 vs. 200) or the lack thereof (p. 92-94), etc.

The differences in the standards of reporting of these references by different authors from different countries mimics the problems faced by forensic dentistry in general. How can there be uniformity in thought when there is such a divergence of opinion? The question of dental nomenclature can also serve as a typical example. Are there as many systems of dental nomenclature as there are numbers of countries? This lack of uniformity is an underlying theme throughout the book.

One of the book's six editors, Ian R. Hill

of the United Kingdom, describes in the introduction some of the more important external difficulties faced by the forensic odontologist. These include social, political, judicial, economic and educational factors. It is the most enlightened chapter in the book and begs to be read by dental faculty administrators, curriculum advisors, politicians, bureaucrats, those who administer and enforce our legal system as well as would-be forensic dentists. Certain paragraphs in the chapters on New Zealand (pp. 182 to 184), South Africa (pp. 193-196-197), Education in Forensic Odontology – a Review (pp. 246-247) and the editors' concluding chapter (pp. 262 to 267) round off that picture.

The book contains 34 unnumbered chapters including a Foreword, an Introduction, Conclusions and Useful Addresses. It contains 272 pages with less than a dozen black and white photographs and illustrations. There are no colour photographs or illustrations. The cover of the book is interesting as it contains a photograph of the father of modern forensic dentistry, Dr. Oscar Amoedo. The back cover contains a sample of his handwriting.

Keiser-Nielsen's chapter on historical cases is well written and orderly. The time span is from 49 AD (Lollia Paulina) to 1928 (marking of dentures). These include cases of mistaken identification, placement of teeth in the wrong socket, the first bite mark case of 1852, bone versus teeth durability, failure to recognize one's own dental work, the study of rugae prints in 1889, a false visual identification and subsequent grueling cross examination in 1898. The chapter ends with 16 pages of references including the names of the 31 textbooks published between the years 1898 and the end of 1982.

There is a short six page chapter on facial reconstruction.

The most interesting and informative chapters on countries include those of Australia (Kenneth A. Brown), Denmark (Soren Keiser-Nielsen), Japan (Kasuo Suzuki), New Zealand (M.C. Churton), South Africa (Cyril W. Thomas), the United Kingdom (Ian R. Hill and J. Kenneth Holt) and the United States (David B. Scott).

The medico-legal systems vary from country to country. In Denmark for example, it is not normal procedure for the forensic medical expert to be asked to appear in court for direct and cross examination. Statements made in medico-legal reports are submitted to both parties. They can be questioned and may then be further explained in writing. In North American courts, cases have been won or lost on the verbal testimony of the expert witness alone. The expert witness has all the time in the world to research and answer the question from a position outside of the courtroom environment in Denmark; here, he must reply to the question while under stress, in court in front of the judge, jury, lawyers and the public. One ambiguous, controversial, misguided or faulty statement by the expert witness will permit the opposing attorney to exploit and discredit the witness.

The more complete chapters are set up in the following manner: The history and development of forensic dentistry within the country, historical cases, the medico-legal and judicial systems, education, research, future prospects, conclusions and references.

This book was reviewed by
Dr. R.B.J. Dorion, a specialty contributor to the Journal in forensic dentistry,
Montreal, Que.

THINK AGAIN BEFORE YOU SAY "YOU'RE FIRED!"

Newfacts Inc.
St. Catharines, Ontario
19 pages
$19.95
1986

As the title implies, this concise book serves to remind dentists, in their dual role of both health professionals and *employers*, of the dangers of improper employee termination. The author illustrates that even if termination is justified, meticulous records and precise procedures must be followed in order to avoid a *successful* legal action for "wrongful dismissal" by the employee. The book also *clearly* outlines the rights of employees with regard to employment legislation.

The author identifies the dentist's legal obligations, as an employer, when faced with an unsatisfactory employee and the unfortunate route of termination is anticipated. These include identifying to the employee the unacceptable behavior or performance, the nature of that unacceptable behavior or performance, what alterations are expected and when they are expected.

It is pointed out in the book that "As courts have a narrow definition of what constitutes cause for dismissal, employees are going to court in increasing numbers. And winning!". The book contains a checklist to assist the dentist/employer to identify and avoid potential legal problems in terminations. The stated purpose of the book is to report for the hurried manager/employer, good advice from lawyers who specialize in labour and employment legislation.

This report contains valuable information for the dentist *and* for the employee. The advice offered could well save the employer/dentist many thousands of dollars and much anguish by preventing successful litigation by a wrongfully dismissed employee. The additional areas of constructive dismissal, job description preparation, performance appraisal, provincial Human Rights In Employment legislation, effective interviewing skills and hiring practices; in the opinion of this reviewer, should supplement this report.

It is the opinion of this reviewer that this book would form a worthwhile addition to the reference library of the Canadian dentist.

This book was reviewed by
Dr. Robert A. Brandon
Assistant Professor
Division of Community Dentistry
University of Western Ontario

TEXTBOOK OF PEDIATRIC DENTISTRY

Raymond L. Braham and Merle E. Morris, Williams and Wilkins, Baltimore, MD

2nd Edition, pp. 682, 1985, $38.00 (U.S.)

This second edition of this textbook, which was originally published in 1980, has made some significant improvements over the first edition. Chapters have been added which reflect the recent trends in the treatment of pediatric patients. These new chapters include: epidemiology of dental caries, fluorides in pediatric dental practice, pit and fissure sealants, child abuse and neglect, oral pathology and local anesthesia. I suspect that several of these topics were motivated by the recent decline in dental caries and the continuing interest in preventive dentistry.

The overall format of the second edition has changed from seven sections to six sections and from 31 chapters to 30 chapters. These changes represent an attempt by the editors to consolidate information which was originally spread out over several chapters.

There has also been an increased emphasis placed on radiographic principles by almost doubling the size of the chapter on that subject. The chapter is very thorough in its discussion of the theoretical and practical considerations in pediatric radiology which has undergone considerable rethinking in the last several years.

One deficiency which was evident would be the chapter on local anesthesia which takes a very theoretical look at this topic by only detailing local anesthetics as they apply to the normal, healthy pedodontic patient. No attempt was made to discuss any behaviour modification techniques or injection techniques. The chapter was very well written by a well known author, however, the reader looking for some how-to infor-

mation might be disappointed.

Another deficiency is the chapter on oral habits which has undergone only slight revision. This chapter remains rather short considering what a broad topic this area can be. The additional information on snuff dipping and smokeless tobacco chewing is very timely in light of the recent announcement by the U.S. Surgeon General concerning the harmful effects of these habits.

The only other deficiency was the short section on the delivery of dental care to underserviced areas using the mobile dental clinic concept. While this is not yet a major consideration in treating our patients it would seem that there is a trend in that direction especially for dental schools that are experiencing a shortage of patients.

One excellent feature of this textbook is its easy readability because of the large, well-spaced typeface that was used. Another feature that makes this book an excellent reference source is the index section which has been expanded from 11 to 17 pages. The index is very detailed and cross referenced – the mark of a quality textbook.

As a teacher I have used this textbook several times as a precursor to lecture preparation. Most of the chapters are very well written and very useful when trying to communicate new ideas to students. I feel the textbook is suitable for both undergraduate and post graduate students of pediatric dentistry as well as the practicing dentist who wishes to have current information pertaining to pediatric dentistry.

The fact that this textbook has progressed into a second edition at a time when there is an abundance of pediatric dentistry textbooks speaks very highly for the quality and usefulness of this textbook.

This book was reviewed by
David S. Richardson, DDS, MS, FRCD(C)
Head
Division of Pediatric Dentistry
Faculty of Dentistry
Dalhousie University

THÉRAPEUTIQUE ORTHODONTIQUE

Michel Langlade

3e édition
Maloine S.A., éditeur
Paris
861 pages
494 figures

Il s'agit d'un des rares volumes écrits en français et portant sur l'orthodontie. Comme le titre l'indique, on ne s'intéresse qu'à l'aspect traitement de la démarche orthodontique, ce qui rendra l'ouvrage particulièrement incomplet pour ceux qui ne possèdent pas l'autre volume du même auteur, le diagnostique orthodontique. Dans plusieurs aspects de l'orthodontie, le diagnostique, la planification du traitement et le traitement lui-même sont indissociables. Cette avenue qu'a pris l'auteur nuit considérablement entre autres aux chapitres sur l'orthopédie fonctionnelle, l'orthopédie temporo-mandibulaire et l'orthodontie orthognatique.

Plusieurs chapitres sont d'un intérêt général, comme ceux par exemple qui traitent de la biomécanique des mouvements dentaires, la motivation, la contention. Cependant on ne s'intéresse généralement qu'à une seule philosophie de traitement, soit la technique de Richetts, introduite en France il y a plusieurs années par le Dr Gugino. La technique de Richetts est une des nombreuses modifications de l'Edgewise; elle emprunte à la technique de l'arc segmenté de Burstone certains principes de segmentation des arcades dentaires pour mieux contrôler, entre autres, les mouvements verticaux des dents. Non seulement réserve-t-on plusieurs chapitres à la description même de la technique mais encore l'ensemble du volume est inspiré de l'oeuvre de Richetts, comme si l'orthodontie était née avec lui.

Le volume comprend également quelques chapitres à caractère pré-clinique comme ceux portant sur l'instrumentation, le choix et le scellement des bagues, la technique du collage par gravage de l'émail qui intéresseront à coup sûr le débutant.

Fait étonnant pour un volume écrit en Europe, on omet complètement de parler de l'orthodontie mineure par appareils amovibles et le chapitre portant sur les activateurs de croissance et les appareils orthopédiques intitulé **''La thérapeutique orthopédique fonctionnelle''** nous laisse vraiment sur notre appétit.

Finalement on ''emplit'' le volume avec la présentation d'une vingtaine de cas cliniques où l'essential et le superflu se mélangent et se recouvrent à un point tel que le lecteur aura possiblement tendance à ignorer ces parties.

En général donc ce volume est d'un contenu scientifique relativement pauvre et il est à se demander à quelle clientèle exactement il s'adresse. En effet le débutant y trouvera certes beaucoup d'informations valables mais le livre dans son ensemble est trop spécifique pour lui. Quant au praticien averti, il sera très vite déçu par le manque de profondeur et de rigueur du contenu. En somme pour ceux qui n'ont pas de problème à lire l'anglais, il existe de biens meilleurs volumes sur le marché.

Ce livre a été révisé par
Dr André Fournier
Orthodontiste
Université Laval

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References: **1.** LAMSTER, I., et al.: Clin. Prev. Dent., 6:12 (1983). **2.** MENAKER, L. et al.: Ala. J. Med. Sci., 16:71 (1979). **3.** ROSS, N.M., et al.: Warner-Lambert research report #955-0875 (1976). **4.** YANKELL, S.L., et al.: Warner-Lambert research report #955-0893 (1976).

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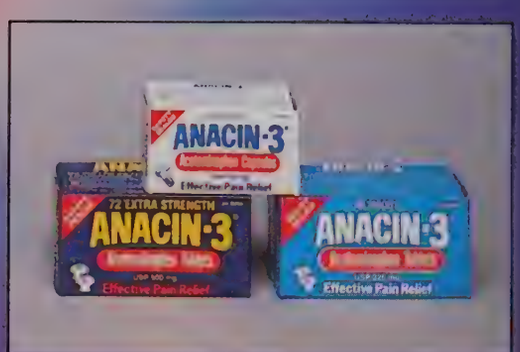

Continuing Dental Education

Sponsoring Institution Address	Location of Course	Title of Course	Subject Area	Date	Style	Instructor	Registration	Fee	Audience	Contact person/ Telephone
Newfoundland Dental Association 211 Lemarchant Road St. John's, Newfoundland A1C 2H5	St. John's, Newfoundland	Cosmetic Bonding — Anterior and Posterior Composites	General Dentistry	Oct. 31	Lecture	Dr. Ron Jordan	Open	$125 & $60 aux.	GPs Assistants Hygienists Lab Technicians	Dr. John Gourley (709) 639-8451
Continuing Education in Dentistry Dalhousie University/ New Brunswick Dental Society	Moncton New Brunswick	Mangled Molars	Restorative Dentistry	Sept. 26	Lecture	Dr. R.A. Bannerman Dr. K. Zakariasen	Open	TBA	GPS	Kate MacDonald (902) 424-2248
Continuing Education in Dentistry Dalhousie University 5981 University Avenue Halifax, Nova Scotia B3H 3J5	Wolfville, Nova Scotia	Guiding the Developing Dentition	Orthodontics	Oct. 24	Lecture	Dr. G.M. Jensen	Limited to 100	TBA	GPs Specialists Assistants Hygienists	Kate MacDonald (902) 424-2248
Continuing Education in Dentistry Dalhousie University 5981 University Avenue Halifax, Nova Scotia B3H 3J5	Halifax, Nova Scotia	TBA	Endodontics	Oct. 30-31	Lecture	Dr. Richard Batty	Open	TBA	GPs	Kate MacDonald (902) 424-2248
Continuing Education in Dentistry Dalhousie University 5981 University Avenue Halifax, Nova Scotia B3H 3J5	Halifax, Nova Scotia	General Practice Update	Orthodontics Periodontics Prosthodontics	Nov. 27 & 28	Lecture Demonstration	Dr. Andrew Thompson et al	Open	TBA	GPs Assistants Hygienists	Kate MacDonald (902) 424-2248
University of Toronto 124 Edward Street Toronto M5G 1G6	Toronto, Ont.	Restorative and TMJ Considerations in Everyday Dentistry	Restorative Dentistry	Aug. 21 & 22	Lecture	Dr. Clifford W. Fox, Jr.	Open	$260	GPs	Jennifer White (416) 979-4503

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University of Toronto 124 Edward Street Toronto M5G 1G6	Toronto, Ont.	C.P.R. Basic Rescuer and/or Re-Certification	Emergency Training	Oct. 1 and Oct. 29 & Nov. 12	Participation	Emergency Service Training Programs	Open	$70	GPs Specialists Assistants Hygienists Lab Technicians	Jennifer White (416) 979-4503
University of Toronto 124 Edward Street Toronto M5G 1G6	Toronto, Ont.	Oral Medicine	Oral Medicine/ Diagnosis	Oct. 22 Nov. 26 Dec. 10 Jan. 21 Feb. 25 Mar. 24 Apr. 21	Lecture	Dr. .CO. Munroe	Open	$600 (7 sessions) $450 Aux. (7 sessions)	GPs Assistants Hygienists	Jennifer White (416) 979-4503
University of Toronto 124 Edward Street Toronto M5G 1G6	Toronto, Ont.	Dental Community Health Program	Community (Public Health) Dentistry for the Aged	Nov. 2-6 Inclus	Lecture Demonstration Participation	Dr. James Leake	Open	$650	D.P.H. Workers Dental Health, Educators	Jennifer White (416) 979-4503
University of Toronto 124 Edward Street Toronto M5G 1G6	Toronto, Ont.	Osseo-integration in Clinical Dentistry	Prosthodontics	Nov. 16-18 Inclus	Lecture Demonstration Participation	Dr. George A. Zarb	Limited to 80	$1500	GPs Specialists	Jennifer White (416) 979-4503
University of Toronto 124 Edward Street Toronto M5G 1G6	Toronto, Ont.	Oral Surgery Conference	Oral and Maxillo-facial Surgery	Dec. 4	Lecture	TBA	Open	TBA	Oral Surgeons	Jennifer White (416) 979-4503
University of Toronto 124 Edward Street Toronto M5G 1G6	Toronto, Ont.	P.C.'s and the Statistical Analysis of Dental Data	Computers	TBA	Lecture Demonstration Participation	Dr. M. Gardner Dr. D.W. Lewis	Limited	$700	GPs Specialists Assistants Hygienists Lab Technicians	Jennifer White (416) 979-4503
University of Toronto 124 Edward Street Toronto M5G 1G6	Toronto, Ont.	Sports Dentistry Symposium	Sports Dentistry	June 24 & 25 1988	Lecture Demonstration Participation	Dr. N. Levine	Open	TBA	GPs	Jennifer White (416) 979-4503
Continuing Dental Education University of Western Ontario Dental Sc. Bldg. London, Ontario N6A 2C1	London, Ont.	Practice Management and enrichment in the 80's	Practice Management	Oct. 2 & 3	Lecture	Dr. D.W. Johnston	Limited to 40	$200 $150 aux.	GPs Assistants Hygienists Receptionists	Mrs. Najet Hassan (519) 679-2111

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Sponsoring Institution Address	Location of Course	Title of Course	Subject Area	Date	Style	Instructor	Registration	Fee	Audience	Contact person/ Telephone
Continuing Dental Education University of Western Ontario Dental Sc. Bldg. London, Ontario N6A 2C1	London, Ont.	Occlusion Series (Course I) Fundamentals of Occlusion and Articulation	Occlusion	Oct. 29-31 Inclus	Lecture Demonstration Participation	Dr. W.R. Teteruck	Limited to 10	$750 + $750 for Lab/ Intsr.	GPs Specialists	Mrs. Najet Hassan (519) 679-2111
Continuing Dental Education University of Western Ontario Dental Sc. Bldg. London, Ontario N6A 2C1	London, Ont.	CPR & A Review of Emergency Drugs	Emergency Dentistry	Nov. 20	Lecture Demonstration Participation	Dr. Parnell	Limited to 24	$135 $100 aux.	GPs Assistants Hygienists Wives	Mrs. Najet Hassan (519) 679-2111
Continuing Dental Education University of Western Ontario Dental Sc. Bldg. London, Ontario N6A 2C1	London, Ont.	Advances in Operative Dentistry — Hands on	Operative Dentistry	Nov. 6 & 7	Lecture Demonstration Participation	Dr. M. Suzuki Dr. R.E. Jordan	Limited to 20	$350	GPs Specialists	Mrs. Najet Hassan (519) 679-2111
Continuing Dental Education University of Western Ontario Dental Sc. Bldg. London, Ontario N6A 2C1	London, Ont.	Symposium: Problems of the Practising Dentist	Practice Management	Nov. 13 & 14	Lecture	Dr. G.Z. Wright	Limited to 80	TBA	GPs Specialists	Mrs. Najet Hassan (519) 679-2111
Continuing Dental Education University of Western Ontario Dental Sc. Bldg. London, Ontario N6A 2C1	London, Ont.	Paediatric Update: Perspectives of TMJ Dysfunction	Pain Management	Nov. 28	Lecture	Dr. G.Z. Wright	Limited to 40	TBA	GPs	Mrs. Najet Hassan (519) 679-2111
Continuing Dental Education University of Western Ontario Dental Sc. Bldg. London, Ontario N6A 2C1	London, Ont.	Crown & Bridge — Back to Basics	Prosthodontics	Dec. 3-4 Inclus	Lecture Demonstration Participation	Dr. D.R. Gratton	Limited to 10	$550	GPs Specialists	Mrs. Najet Hassan (519) 679-2111
Continuing Dental Education University of Western Ontario Dental Sc. Bldg. London, Ontario N6A 2C1	London, Ont.	Electrosurgery in General Practice	General Dentistry	Jan. 22 1988	Lecture Participation	Dr. D.R. Gratton	Limited to 10	$225	GPs	Mrs. Najet Hassan (519) 679-2111
Continuing Dental Education University of Western Ontario Dental Sc. Bldg. London, Ontario N6A 2C1	London, Ont.	Functional and Fixed Orthodontics for the General Practitioner	Orthodontics	Jan. 22 1988	Lecture Participation Demonstration	Dr. A.H. Mamandras	Limited to 16	$190	GPs	Mrs. Najet Hassan (519) 679-2111

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Continuing Dental Education University of Western Ontario Dental Sc. Bldg. London, Ontario N6A 2C1	London, Ont.	Occlusion Series (II) A Gnathologic Waxing Course	Occlusion	Feb. 5 & 6 1988	Lecture Demonstration Participation	Dr. W.R. Teteruck	Limited to 16	$500	GPs Lab Technicians	Mrs. Najet Hassan (519) 679-2111
Continuing Dental Education University of Western Ontario Dental Sc. Bldg. London, Ontario N6A 2C1	London, Ont.	Removable Partial Dentures	Prosthodontics	Feb. 11-13 1988	Lecture Participation	Dr. P.S. Sills	Limited to 24	$425	GPs Lab Technicians	Mrs. Najet Hassan (519) 679-2111
Continuing Dental Education University of Western Ontario Dental Sc. Bldg. London, Ontario N6A 2C1	London, Ont.	Aesthetic Restorative Dentistry	General Dentistry	March 3-5 1988	Lecture Participation	Dr. D.R. Gratton Dr. R.E. Jordan	Limited to 30	$525	GPs	Mrs. Najet Hassan (519) 679-2111
Continuing Dental Education University of Western Ontario Dental Sc. Bldg. London, Ontario N6A 2C1	London, Ont.	Occlusion Series (Course III) A Practical Approach to Occlusal Equilibration	Occlusion	April 8 & 9 1988	Lecture Participation	Dr. W.R. Teteruck	Limited to 10	$600	GPs	Mrs. Najet Hassan (519) 679-2111
Continuing Dental Education University of Western Ontario Dental Sc. Bldg. London, Ontario N6A 2C1	London, Ont.	Complete Dentures Today	Prosthodontics	April 15 & 16 1988	Lecture Participation	Dr. P.S. Sills	Limited to 35	$275	GP's	Mrs. Najet Hassan (519) 679-2111
Continuing Dental Education University of Western Ontario Dental Sc. Bldg. London, Ontario N6A 2C1	London, Ont.	Nitrous Oxide-Oxygen Conscious Sedation and a CPR Review	Oral and Maxillofacial Surgery	May 11-13 Inlus 1988	Lecture Participation	Dr. Parnell Dr. I. Schofield	Limited to 24	$400	GPs	Mrs. Najet Hassan (519) 679-2111
Faculty of Dentistry University of Manitoba 780 Bannatyne Ave. Winnipeg, Manitoba R3E 0W3	Winnipeg, Manitoba	Successful Treatment of Fearful Dental Patients: Effective Behavioural & Pharmacologic Strategies	Anxiety and Pain Control	Sept. 19	Lecture	Dr. Philip Weinstein Dr. Peter Milgrom, Tracy Getz, MS	Open	$125 $50 Aux.	GPs Specialists Assistants Hygienists Dental Auxiliaries	Karen McLean (204) 788-6331

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Faculty of Dentistry University of Manitoba 780 Bannatyne Ave. Winnipeg, Manitoba R3E 0W3	Winnipeg, Manitoba	Anorexia and Bulimia: Dental Problems and Treatment	Oral Medicine/ Diagnosis	Oct. 5	Lecture	Dr. John McComb	Open	Free	GPs Specialists Assistants Hygienists Dental Auxiliaries	Karen McLean (204) 788-6331
Faculty of Dentistry University of Manitoba 780 Bannatyne Ave. Winnipeg, Manitoba R3E 0W3	Winnipeg, Manitoba	Periodontics for the Dental Team: Current Clinical Procedures	Periodontics	Oct. 31	Lecture	Dr. Bashar Bakdash	Open	$115 $50 Aux.	GPs Specialists Assistants Hygienists Dental Auxiliaries	Karen McLean (204) 788-6331
Faculty of Dentistry University of Manitoba 780 Bannatyne Ave. Winnipeg, Manitoba R3E 0W3	Winnipeg, Manitoba	Meeting the Patients' Esthetic Demands in 1987 — Part I & Part II	Operative Dentistry Dental Material & Devices	Nov. 13 & 14	Lecture (Part 1) Demonstration Participation (Part II)	Dr. Thomas D. Larson and Clinical Instructors	Part I Open Part II Limited to 40	$115 Part I TBA Part II	GPs Specialists	Karen McLean (204) 788-6331
Faculty of Dentistry University of Manitoba 780 Bannatyne Ave. Winnipeg, Manitoba R3E 0W3	Winnipeg, Manitoba	Dental Radiology: Interpretation & Diagnosis in General Practice	Oral Radiology	Dec. 12	Lecture	Dr. Robert Langlais	Open	$115 $50 Aux.	GPs Specialists Assistants Hygienists Dental Auxiliaries	Karen McLean (204) 788-6331
Manitoba Dental Hygienists Association/ Faculty of Dentistry University of Manitoba 780 Bannatyne Ave. Winnipeg, Manitoba R3E 0W3	Winnipeg, Manitoba	Individualizing Prevention: Different Perspectives	Course for Auxiliaries/ Preventive Dentistry	Oct. 7	Lecture (Panel Discussion)	Dr. Keith Levin Rhonda Plett Dorie Schmidt	Open	$35	Hygienists Dental Auxiliaries	Karen McLean (204) 788-6331
Manitoba Dental Hygienists Association/ Faculty of Dentistry University of Manitoba 780 Bannatyne Ave. Winnipeg, Manitoba R3E 0W3	Winnipeg, Manitoba	Dental Hygiene Seminar	Courses for Auxiliaries	Nov. 21	Lecture	Six speakers/ Six topics	Open	$50	Assistants Hygienists Dental Auxiliaries	Karen McLean (204) 788-6331

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Sponsoring Institution Address	Location of Course	Title of Course	Subject Area	Date	Style	Instructor	Registration	Fee	Audience	Contact person/ Telephone
Alpha Omega Fraternity Faculty of Dentistry University of Manitoba 780 Bannatyne Ave. Winnipeg, Manitoba R3E 0W3	Winnipeg, Manitoba	Caridex: Chemo-Mechanical Means of Caries Removal/ Proper Posts for Endodontically Treated teeth	Dental Materials and Devices Endodontics	Dec. 5	Lecture	Dr. Melvin Goldman	Open	Free	GPs Specialists	Karen McLean (204) 788-6331
College of Dental Surgeons of Saskatchewan 109–514 23rd St. East Saskatoon, Saskatchewan S7K 0J8	Regina, Saskatchewan	Humor Option		Sept. 12	Lecture	C.W. Metcalf	Open	TBA	GPs Specialists Assistants Hygienists	Dr. G.H. Peacock (306) 244-5072
College of Dental Surgeons of Saskatchewan 109–514 23rd St. East Saskatoon, Saskatchewan S7K 0J8	Saskatoon, Saskatchewan	Clinical & Laboratory Quality Controls for Optimal Prosthodontic Services	Prosthodontics	Oct. 3	Lecture	Dr. Curtis Barmby	Open	TBA	GPs Specialists Lab Technicians	Dr. G.H. Peacock (306) 244-5072
College of Dental Surgeons of Saskatchewan 109–514 23rd St. East Saskatoon, Saskatchewan S7K 0J8	Regina, Saskatchewan	Removable Prosthodontics	Prosthodontics	Nov. 7	Lecture	Dr. Bernard Levin	Open	TBA	GPS Specialists Assistants Hygienists Lab Technicians	Dr. G.H. Peacock (306) 244-5072
The Alberta Academy of Periodontics 502–8215 12th Street Edmonton, Alberta T6G 2C8	Edmonton, Alberta	Advances in Periodontics	Periodontics	Dec. 5	Lecture	Dr. Michael G. Newman	Open	$150 $75 Add. Staff $25 Students	GPs Specialists Hygienists Assistants Students (DH and DDS)	Marianne Carlson (403) 439-2318
Division of Continuing Professional Education Faculty of Dentistry University of Alberta 4063 Dent/ Pharm Bldg. Edmonton, Alberta T6G 2N8	Edmonton, Alberta	Bonded Restoration — Porcelain Veneers	Oral Rehabilitation	Sept. 12 & 19	Lecture Demonstration Participation	Dr. C.J. Osadetz Dr. D. Dederich	Limited to 20 dentists and their assistants	$600 $200 Lab/ Instr.	GPs Specialists Assistants	Dr. Alex Bene Ms. Debbie Grant (403) 432-5023 (403) 432-8240

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Division of Continuing Professional Education Faculty of Dentistry University of Alberta 4063 Dent/ Pharm Bldg. Edmonton, Alberta T6G 2N8	Calgary, Alberta	Comprehensive Treatment Planning in Restorative Dentistry	Oral Rehabilitation	Oct. 3	Lecture Demonstration	Dr. A.H. Sneazwell	Open	$150	GPs Specialists Assistants Hygienists	Dr. Alex Bene Ms. Debbie Grant (403) 432-5023 (403) 432-8240
Division of Continuing Professional Education Faculty of Dentistry University of Alberta 4063 Dent/ Pharm Bldg. Edmonton, Alberta T6G 2N8	Calgary, Alberta	A Rationale for Treatment of T.J.M. Dysfunction	Oral Medicine/ Diagnosis	Oct. 24	Lecture Demonstration	Dr. N.R. Thomas	Open	$140	GPs Specialists Assistants Hygienists	Dr. Alex Bene Ms. Debbie Grant (403) 432-5023 (403) 432-8240
Division of Continuing Professional Education Faculty of Dentistry University of Alberta 4063 Dent/ Pharm Bldg. Edmonton, Alberta T6G 2N8	Edmonton, Alberta	Progressive Endodontics	Endodontics	Nov. 14	Lecture	Dr. G.H. Holland Dr. K.V. Krell	Open	$140	GPs Specialists Assistants Hygienists	Dr. Alex Bene Ms. Debbie Grant (403) 432-5023 (403) 432-8240
Division of Continuing Professional Education Faculty of Dentistry University of Alberta 4063 Dent/ Pharm Bldg. Edmonton, Alberta T6G 2N8	Edmonton, Alberta	Comprehensive Treatment Planning in Restorative Dentistry	Oral Rehabilitation	Nov. 21 (Oct. 3 in Calgary)	Lecture Demonstration	Dr. A.H. Sneazwell	Open	$150	GPs Specialists Assistants Hygienists	Dr. Alex Bene Ms. Debbie Grant (403) 432-5023 (403) 432-8240

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Edmonton District Dental Society/Division of Continuing Professional Education Faculty of Dentistry University of Alberta 4063 Dent/ Pharm Bldg. Edmonton, Alberta T6G 2N8	Edmonton, Alberta	Dealing with Pain and Anxiety in Dental Practice	Anxiety and Pain Control	Nov. 2-3	Lecture	Dr. Peter Milgram (U. of Washington)	Open	$230	GPs Specialists Assistants Hygienists	Dr. Alex Bene Ms. Debbie Grant (403) 432-5023 (403) 432-8240
Faculty of Dentistry Continuing Dental Education University of B..C 105–1094 Health Sc. Mall Vancouver, B.C. V6T 1W5	Vancouver B.C.	An Update on Glass Ionomer Cements	Dental Materials and Devices	Sept. 19	Lecture Demonstration Participation	Dr. Joe J. Simmons	Open	DDS $110 Aux. TBA	GPs Specialists Assistants Hygienists	Jane M. Wong (604) 228-2627
Faculty of Dentistry Continuing Dental Education University of B.C. 105–1094 Health Sc. Mall Vancouver, B.C. V6T 1W5	Vancouver B.C.	Generating Health in the Oral Environment	Preventive Dentistry	Sept. 26	Lecture	Dr. William K. Hettenhausen	Open	DDS $110 Aux. $65	GPs Specialists Assistants Hygienists	Jane M. Wong (604) 228-2627
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Faculty of Dentistry Continuing Dental Education University of B.C. 105–1094 Health Sc. Mall Vancouver, B.C. V6T 1W5	Vancouver B.C.	Ortho/ Perio/ Restorative Interrelationships	Orthodontics Periodontics	Oct. 17	Lecture	Dr. Crawford Bain	Open	DDS $110 Aux. $65	GPs Specialists Assistants Hygienists	Jane M. Wong (604) 228-2627

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Faculty of Dentistry Continuing Dental Education University of B.C. 105–1094 Health Sc. Mall Vancouver, B.C. V6T 1W5	Vancouver B.C.	The Challenge of Restorative Esthetics	Esthetics	Nov. 7	Lecture	Dr. Dennis Nimchuk	Open	DDS $110 Aux. $65	GPs Specialists Assistants Hygienists Lab Technicians	Jane M. Wong (604) 228-2627
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Faculty of Dentistry Continuing Dental Education University of B.C. 105–1094 Health Sc. Mall Vancouver, B.C. V6T 1W5	Vancouver B.C.	Orthodontic and Surgical Management of Open Bite Malocclusions	Oral and Maxillofacial Surgery/ Orthodontics	Nov. 21	Lecture	Dr. Alan A. Lowe Dr. William S. Walter	Open	$110 Aux. $65	GPs Specialists Assistants Hygienists	Jane M. Wong (604) 228-2627
Faculty of Dentistry Continuing Dental Education University of B.C. 105–1094 Health Sc. Mall Vancouver, B.C. V6T 1W5	Vancouver B.C.	Osseointegration in Clinical Dentistry — Prosthetic Course	Oral Rehabilitation	Nov. 27-28	Lecture Demonstration Participation	Dr. George Zarb	Limited to 40	$1000	GPs Specialists	Jane M. Wong (604) 228-2627
Faculty of Dentistry Continuing Dental Education University of B.C. 105–1094 Health Sc. Mall Vancouver, B.C. V6T 1W5	Vancouver B.C.	Dental Photography	Photography	Dec. 5	Lecture	Mr. Clifford Freehe	Open	$110 Aux. $65	GPs Specialists Assistants Hygienists	Jane M. Wong (604) 228-2627

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1 Biomedical Business International, *Growth Areas In Dentistry: The Burgeoning Dental Implants Market;* Report #7070, 1986.

2 Lum, L. and Beirne, O.R., *Journal of Oral and Maxillofacial Surgery,* 44:341-5, 1986.

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6 English, C. Presentation, *Second International Symposium on Preprosthetic Surgery,* May 14-16, 1987.

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DENTAL IMPLANTS
PERIODONTAL CONSIDERATIONS

Dr. M. Arlin, DDS, FRCD(C)
Toronto

(From the Table Clinic given by Dr. M. Arlin at the 1986 ODA convention.)

The success or failure of a dental implant is ultimately determined biologically at the cellular level. It follows, therefore, that one must examine the periodontal, or rather the ''peri-implant'', tissues when studying dental implants. While there are four connective tissues in the natural periodontium (gingiva, bone periodontal ligament and cementum), there are only three with dental implants (gingiva, bone and the peri-implant ''ligament'').

An ever-increasing number of implant systems are appearing on the market. One can loosely categorize their designs as follows: 1) supraosseous (e.g., subperiosteal), 2) intraosseous (e.g., Branemark osseointegrated system), 3) transosseous (e.g., mandibular staple), 4) intramucosal, and 5) intradental (e.g., endodontic stabilizers). This paper will address the periodontal considerations for some of the intraosseous dental implants.

Intraosseous type implants include bone pins, blades, core-vent and Branemark. The latter two differ significantly from the others in that the armamentarium and surgical technique employed allow for a less traumatic procedure as well as an increased precision fit between the implant and the surgical bone preparation. As well, a two-stage procedure is employed where the implant is completely ''submerged'' (covered completely by the gingiva) for an adequate healing period (usually three to six months). Thereafter, the implant is exposed for the second stage procedure when the suprastructural abutment is connected. In contrast, other implant systems are inserted into the bone with their trans-gingival portion being immediately available for prosthetic temporization. These latter systems generally allow fibrous tissue and epithelial downgrowth between the implant and bone, termed ''fibrointegration''. The goal of the core-vent and Branemark systems, on the other hand, is to achieve a firm, direct and long-lasting connection between vital bone and implant, termed ''osseointegration''. Thus when examining the bone-implant interaction, one may achieve (1) osseointegration, (2) fibrointegration or (3) rejection (when the epithelium totally encapsulates the implant).

The gingiva is capable of attaching to various implants via hemi-desmosomes.[1] Relatively little is known about the supracrestal connective tissue attachment to dental implants. This is primarily due to the technical difficulties encountered in preparing histological sections combining soft tissue and the very hard implant material. It is likely there is some sort of adhesion between the connective tissue and implant surfaces as thin hemidesmosomes can be found.[2] The question of the need for keratinized vs. mucosal tissue at the implant transmucosal area has not been extensively studied. The results of a recent study, however, have suggested keratinized gingiva may not be mandatory for implant success.[3]

It is not within the scope of this article to discuss implants in relation to the following parameters: patient selection; preoper-

TABLE I

Prerequisites to achieve osseointegration

a. Material biocompatibility
b. Macro-structural design of implant
c. Micro-surface structure of implant
d. Healthy bone status at the recipient bed
e. Proper surgical technique (see Table II)

TABLE II

Surgical technique to achieve osseointegration

a. Sharp drills
b. Gradual widening
c. Low pressure
d. Abundant irrigation
e. Intermittent pressure
f. Low r.p.m.
g. Proper placement of implant
h. Proper flap design

TABLE III

Evidence of osseointegration

a. No radiographic evidence of a periodontal ligament space
b. Implant is not removable
c. Implant cannot be moved orthodontically
d. Implant is immobile
e. Histologically, bone in direct contact with the implant
f. Clinically, lasting in the long term

The following photographs illustrate various types of intraosseous implants demonstrating varying periodontal responses.

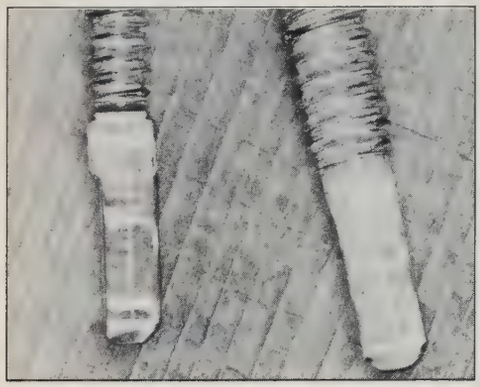

Fig. 1. Two different lengths and widths of bioceramic intraosseous implants. The threaded portion is inserted into the bone while the smooth portion is immediately available for prosthetic restoration.

Fig. 2. Six months post-insertion, these implants exhibit extreme mobility. Notice the radiolucent peri-implant space totally encompassing the intraosseous component. This result should be considered to be a failure.

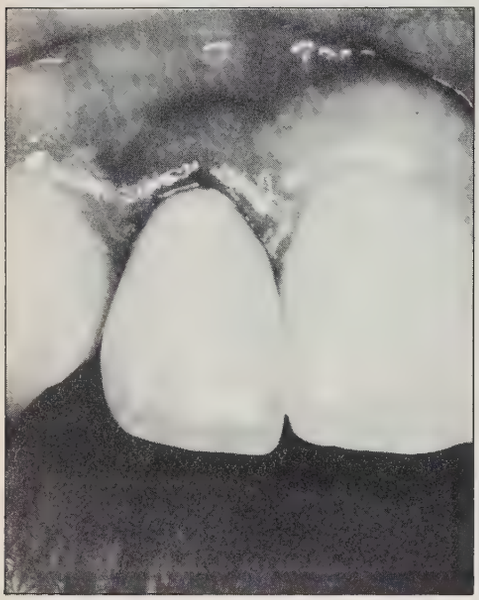

Fig. 3. A single-tooth blade implant after two years, without any signs of implant exposure.

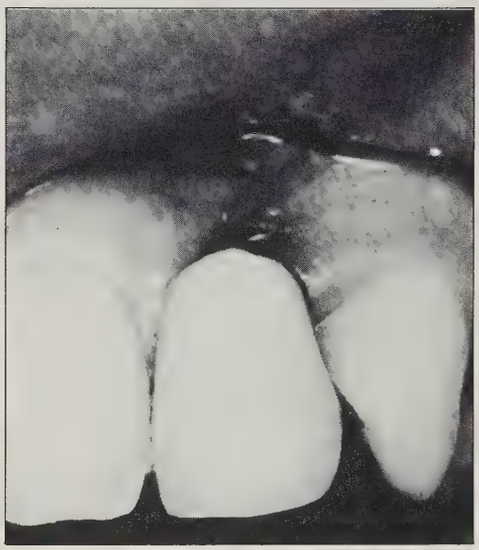

Fig. 4. Contralateral blade placed at the same time as in Fig. 3 demonstrates recession and "peri-implantitis" with blade exposure.

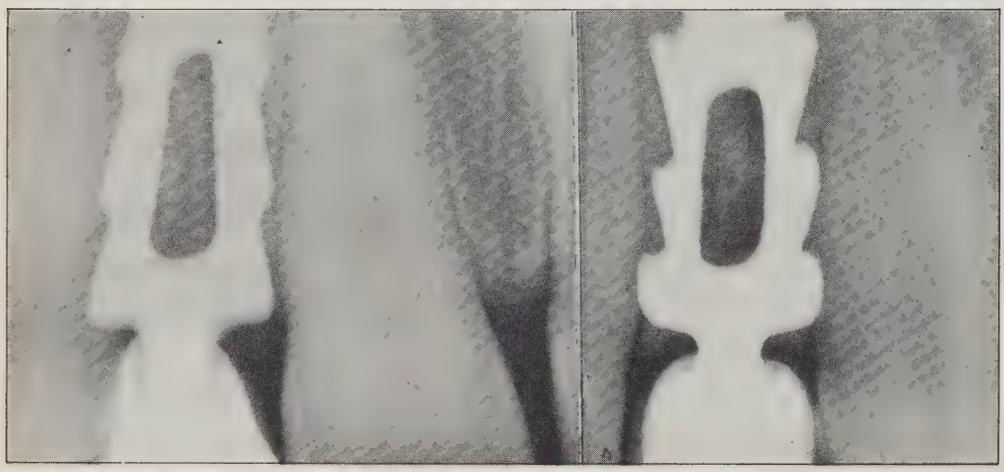

Fig. 5. Radiographs of both implants illustrating more advanced bone loss around the implant in the 2.2 position.

ative records, indications and contraindications; advantages and disadvantages; and surgical and prosthetic procedures.

CRITERIA FOR SUCCESS

With so many different implant systems available, one must try to determine which will be most predictable for each given clinical situation. The Harvard Consensus Development Conference, held in 1978 at the Harvard School of Dental Medicine, proposed that "an implant should provide safe and effective function for a minimum of five years in at least 75 per cent of the clinical cases.[4,5] Some very experienced clinicians in the field of implantology have claimed that in their hands a variety of implant systems such as subperiostials and one-piece blades, have been routinely successful. Others insist that only "osseointegrated implants" survive long term, and other systems are all doomed to failure eventually. For the inexperienced implantologist, it is difficult to get an accurate assessment of where the truth lies.

When one scrutinizes the literature, it becomes obvious that with the exception of the Branemark system, there are little or no well-controlled basic biological and clinical (animal or human) studies. The Branemark system stands alone in having published extensively on the biology of osseointegration and on their clinical results.[6] Indeed, their clinical success rates approach 100 per cent, which appears in large part to be related to the presence of osseointegration as opposed to fibrointegration.

The prerequisites of osseointegration and evidence that it has been achieved are presented in **Tables I, II** and **III**. The implant itself must not only be biocompatible but must be structurally sound from a mechanical point of view. The commercially pure titanium Branemark implants form an oxide layer onto which the bone adheres. It appears that the body recognizes this oxide layer as "self" rather than foreign. The bone site chosen for the recipient bed must not only be of adequate physical dimension but must be free of infection and clear of vital anatomical structures. Proper surgical technique is critical to assure immediate stabilization as a result of the accurate fit between the implant and bone, and minimal surgical trauma. Excess heat production during the surgical procedure will induce injury, resulting in bone tissue being replaced by fibrous tissue or fat cells, with resultant loss of osseointegration.[7]

It has been shown that 47° C for one minute seems to be the hottest temperature tolerable by bone, without impairing healing. Also, any movement during the initial healing period will result in implant move-

ment and subsequent fibrous tissue encapsulation and loss of holding power.[8]

In summary, from a periodontal standpoint, there seems to be a biological advantage with achieving osseointegration as opposed to fibrointegration, and a surgical technique employing a precision fit and submersion of the implant seem to be critical prerequisites in achieving osseointegration. Therefore, where applicable, the Branemark system would seem to be the implant of choice. Other similar systems such as the "core vent" have been criticized for their lack of scientific studies.[9] When a cylindrically-shaped implant cannot be anatomically accommodated, a submergible type blade may be more effective than utilizing a one-stage procedure. (The makers of the "core vent" market a submergible blade.)

Dr. Arlin is an instructor in periodontics at the Faculty of Dentistry, University of Toronto, and maintains a periodontal practice in Toronto.

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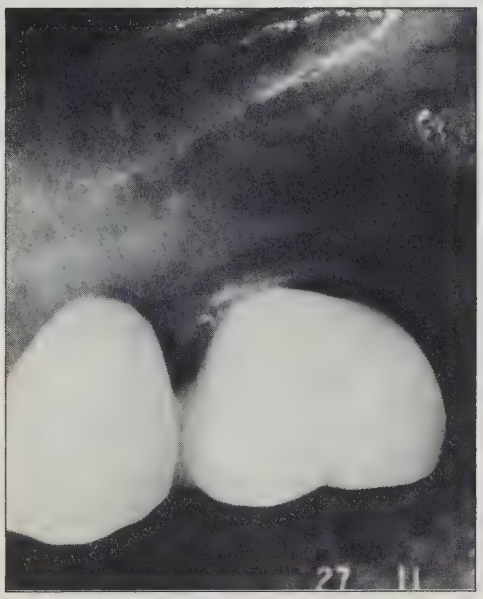
Figs. 6 and 7. Maxillary blade implant that has been functioning for 10 years without any radiographic or clinical signs of pathosis. There are no adverse symptoms or patient complaints.



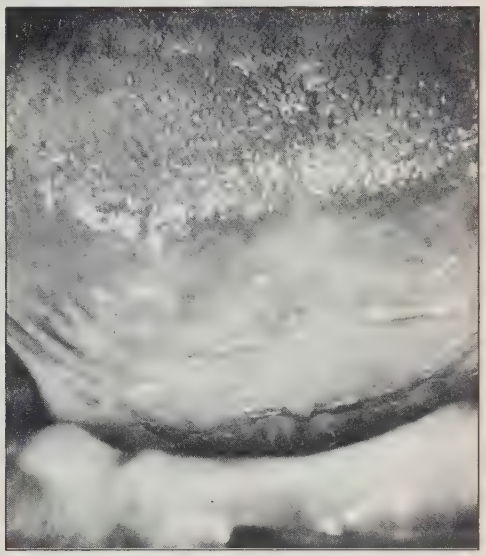


Fig. 8. Edentulous mandible.

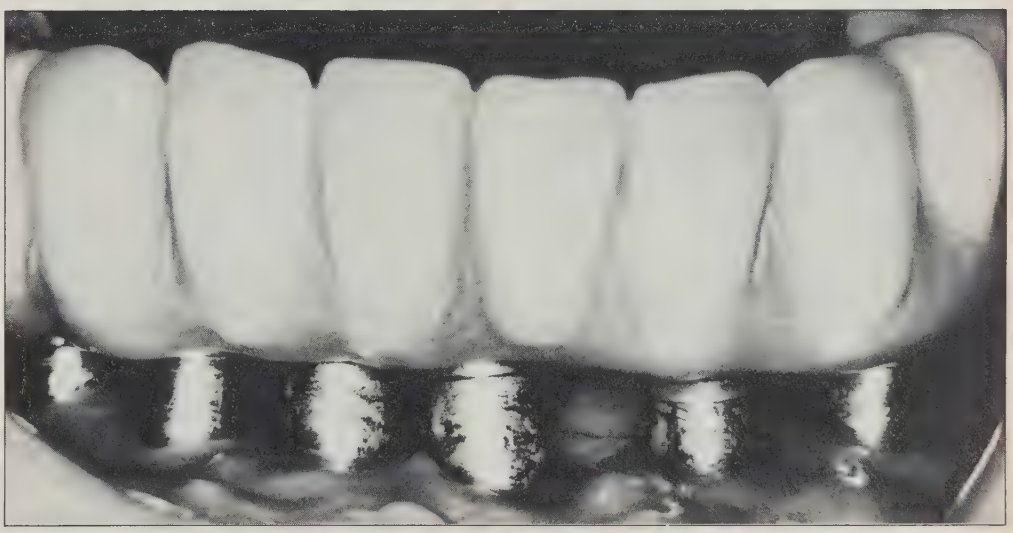


Fig. 9. Clinical photograph of six Branemark implants supporting a complete fixed denture. The denture is attached to the implants via six individual screws that can be easily removed by the dentist to allow implant and prosthetic maintenance. There are no signs or symptoms of pathosis.

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NON-INVASIVE THERAPY FOR PROXIMAL ENAMEL CARIES

AN EXPANDED ROLE FOR BITEWING RADIOGRAPHY

R.G. Stephens, DDS, MSc
S.L. Kogon, DDS, MSc
J.A. Reid, DDS, FAADR
London, Ontario

ABSTRACT

Increased knowledge of remineralization along with dramatic changes in prevalence and rates of progression of caries have led to the development of non-invasive therapy for subsurface enamel lesions. The bitewing radiograph is pivotal to such treatment decisions and to the monitoring process. Even though the radiographic image cannot be used to differentiate between the subsurface lesion and cavitation, a protocol for decision-making is presented based upon predictable rates of caries progression.

SOMMAIRE

Une meilleure connaissance de la reminéralisation alliée à des changements spectaculaires dans la prévalence et les taux de progression des caries a permis d'élaborer une thérapie non invasive pour les lésions se produisant sous la surface de l'émail. Pour prendre des décisions touchant le traitement et bien surveiller la procédure adoptée, la radiographie interproximale se révèle un outil essentiel. Bien qu'une radiographie ne permette pas de distinguer entre une lésion dans l'émail et une cavitation, on présente un protocole pour prendre des décisions en se basant sur les taux prévisibles de la progression des caries.

Research in dental caries in the past decade has led to an increasingly important role for the bitewing radiograph in treatment decisions for posterior proximal enamel caries. Historically, it has been an essential diagnostic aid in the examination of these surfaces, since visual and tactile methods alone have proved to be inefficient. When Raper[1] in 1925 demonstrated the bitewing as a new radiographic technique, he contended that it would disclose enamel lesions which could not be found by physical examination with an explorer. Kells disputed the claim, insisting that all "cavities" could be located by explorer. Simpson agreed with Raper but described these small enamel lesions as "chemical cavities". Currently we classify these non-cavitated, demineralized areas as subsurface lesions. Raper's belief in the efficacy of the bitewing method was proved correct by subsequent research which showed that approximately 50 per cent of proximal lesions were missed by clinical examination.[2]

With caries prevalence in most of this century at epidemic proportions, radiographic evidence of proximal caries was a basic criterion for restoration. It was a principle of good preventive practice to identify lesions at the earliest stage and to treat by restoration to prevent spread, or more seriously, pulp infection. That the bitewing is just as essential today was shown in a recent study where it was reported that 60 per cent of treatment decisions for restoring posterior proximal surfaces were based on radiographs alone.[3] However, with the advent of fluoride supplements in many therapeutic forms, the prevalence and nature of caries has changed dramatically. This, along with our growing knowledge of the remineralization process, has led to the development of a non-invasive philosophy of treatment for subsurface enamel lesions. Non-invasive therapy is the application of preventive measures and subsequent monitoring of the lesions to assess regression, arrest or progression.[4] In this new approach, the bitewing radiograph plays a pivotal role. Unfortunately, recent research[5-7] has revealed serious limitations in relating the radiographic image of enamel caries to the clinical state of the tooth surface. In this paper, we will examine these limitations as they affect the practical application of the expanded role of bitewing radiography.

THE SCIENTIFIC BASIS FOR NON-INVASIVE THERAPY

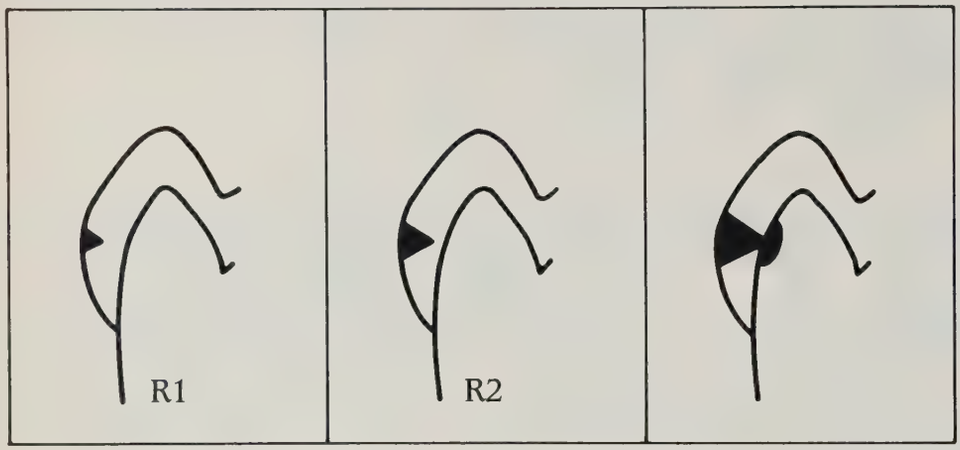
Remineralization of Carious Enamel

Non-invasive therapy has its origin primarily in recent research on the remineralization process.[8,9] In addition, it has long been known that arrest or reversal of the carious process can occur under certain circumstances.[10]

To understand the concept of remineralization and its role in non-invasive therapy, it is necessary to review our present knowledge of the carious process.[11,12] Caries is not simply a continuous dissolution of the surface but a dynamic process with periods of demineralization and remineralization occurring usually over a number of years. Most often, caries is initiated shortly after eruption. The initial attack is characterized by demineralization which primarily occurs *below* the surface of the enamel. The more resistant surface serves as a protective layer due to active remineralization and a higher content of fluoride. Acid gains access to the deeper layers through minute spaces or pores along the sides of the enamel prisms. The body of the lesion, which lies below the surface, shows extensive demineralization while the deepest zone and the surface layer show evidence of remineralization. This process results from reprecipitation of calcium and phosphate ions derived from crystal dissolution in the body of the lesion.

FIGURE 1

Radiological classification of caries



R1 image is shown in the outer half of the enamel; R2 image extends into the inner half of the enamel; R3 image extends into the outer half of the dentine.

If sufficient acid continues to be produced from the plaque, remineralization may not prevent eventual dissolution of the surface layer. Subsequently, fracture of enamel and cavitation occur and this heralds the irreversible stage of bacterial destruction of the organic matrix. Prior to this final stage, the subsurface lesion with an intact surface has the potential for repair by remineralization, especially if non-invasive therapy is instituted.

Changes in Caries Prevalence and Progression Rate

From the literature, it is evident that a dramatic decline in caries prevalence of at least 50 per cent has occurred in Western countries in the past 10 years.[13] Exposure to fluoride therapy in all its forms seems to be the major factor. The traditional concept of fluoride increasing resistance to caries by incorporation of fluoride ions into the crystal structure, while still valid, is no longer believed to be the primary reason for the major reductions in caries prevalence.[14,15] The chief mechanism for cariostasis is remineralization. The concentration of fluoride ions bathing the tooth is principally responsible for this process. The main sources of these ions are fluoridated water, topical application, rinses and fluoridated toothpastes. During the carious attack by bacterial acids, the rapid fall in pH releases fluoride ions from the plaque. These ions plus those released from the demineralizing enamel produce a high concentration of fluoride at the site of attack. Although fluoride marginally deters the initiation of lesions by its incorporation into normal enamel, it plays a primary role in preventing progression by enhancing remineralization of incipient lesions.

There has been an entrenched belief within the dental profession that once the carious process is initiated, progress is rapid and continuous. However, there is overwhelming scientific evidence that after initiation, caries progression in enamel is slow and intermittent with at least 50 per cent of the lesions not progressing after initiation.[16] As early as 1961, it was shown that the average time of progression of a carious lesion from the outer enamel into the dentine was 3-4 years.[17] More recently,[18] a study of the effect of non-invasive therapy on caries progression showed that 82.3 per cent of outer enamel lesions recorded at age 13 were still in the enamel at age 16 and more than half of these had not progressed. These patients had received intensive non-invasive therapy consisting of hygiene instruction, diet counselling, fluoride varnish and fluoride rinses. The drinking water and toothpaste were fluoridated. From these results it appears that the great majority of new lesions are either arrested or reversed by active non-invasive therapy. The efficacy of intensive preventive care was convincingly demonstrated in an Australian study,[19] in which the home use of a stannous fluoride dentifrice in combination with the professional application of a 10 per cent stannous fluoride solution markedly retarded the progression of enamel lesions. Of the outer enamel lesions recorded at the beginning of the study, 71 per cent were still in the enamel four years later. In a joint Swedish and American study of children in the mixed dentition and adolescent stage, the rate of progression of active lesions from the outer to the inner half of the enamel averaged two years.[20]

In 1983, Pitts[21] reviewed the caries progression literature and concluded that there is "overwhelming evidence that for the majority of individuals the progression of approximal carious lesions is a slow process and that large numbers of lesions remain apparently unchanged for long periods of time." From his review, Pitts estimated the "mean survival time" for enamel lesions to be 3 to 4 years. When only outer enamel lesions were considered, an average time of 5-6 years was required for progression into dentine.

RELATIONSHIP OF THE RADIOGRAPHIC IMAGE TO THE CLINICAL AND HISTOLOGICAL LESION

Clinical and Radiological Terminology

Before discussing the radiographic image of caries in terms of the precise information revealed, it is necessary to assess the commonly used clinical and radiological terms. For reasons of communication with patients, dentists have used the term "cavity" as a synonym for the carious lesion. This clinical usage has been transferred to the radiological language. However, since the radiograph does not distinguish between cavitated and non-cavitated lesions, the term cavity should be reserved solely for a *clinically* detectable hole in the tooth surface.[7]

The term "incipient lesion" is commonly applied to the small, outer enamel image on the radiograph. By definition, incipient means an initial or early stage of the disease. The difficulty with this term is that when the image is first seen radiographically, the age of the lesion usually is not known. For example, for an older individual the image may represent an enamel lesion that has been present for years without progressing and may in fact be arrested. The term incipient is inappropriate unless the time of initiation is known. The descriptive term "outer or inner enamel lesion" should be used.

The Clinical Lesion and Its Image

A number of studies have assessed the relationship between the image and the clinical lesion, using a radiographic classification based upon image depth in enamel and dentine.[5,6,22] A widely accepted classification is shown in **Fig. 1**. These studies have shown that when an image is present in the outer half of the enamel (R1), approximately two-thirds of the lesions do not have cavitation. Even when the image extends into the inner half of the enamel (R2), approximately one-third of the lesions do not have cavitation. One of the studies[6] concluded that only one in five enamel lesions had cavitation. When the radiographic image of caries involves the outer half of the dentine (R3), cavitation was present between 90

and 100 per cent of the time. Although these group statistics illustrate the relationship between the image depth and the integrity of the enamel surface, a clinician examining a radiograph cannot determine if a cavity is present based upon the depth criterion. A recent study examined the use of the additional image criteria of shape and density to increase the sensitivity of the radiographic method.[7] Although the criterion of shape was not useful in differentiating between an enamel cavity and a subsurface lesion, there was a marginally statistically significant relationship between density and cavitation. The radiographic image of enamel caries will show the clinician the extent of the lesion, but will not indicate the presence or absence of cavitation.

Radiographic Image and the Histological Extent of the Lesion

For many years it has been known that the radiographic image does not reveal the true extent of histological changes in enamel and dentine due to caries.[23] In a landmark study in 1959, Darling[24] showed that when the lesion is first identified radiographically in the enamel, histological changes have occurred in dentine and odontoblastic stimulation has produced secondary dentine.

It has also been known for many years that up to 30 per cent demineralization of hard tissue is necessary before a radiolucent image can be seen. This radiographic fact was well demonstrated in a study where more than half of the clinically evident proximal subsurface lesions were not apparent radiographically.[5] The fact that the radiographic image does not reveal the full depth of the histological lesion is still being used to justify restoration of lesions diagnosed as "incipient".[25] Given our present knowledge of the carious process, it is widely agreed that histological depth should not be a primary determinant in treatment decisions and should not be used to justify restoration of subsurface enamel lesions.[26] The presence of surface cavitation is the pivotal criterion.[8,11]

THE APPLICATION OF RADIOGRAPHIC INFORMATION IN DIAGNOSTIC AND TREATMENT DECISIONS

Our better understanding of the dynamics of the carious process and especially of the potential for remineralization of enamel lesions requires a more sophisticated interpretation of the radiographic images of caries. The traditional pattern of simply recording the presence of a lesion will no longer suffice. As an aid to treatment decisions, a charting system using a radiographic classification based upon image depth is essential (**Fig. 1**). As well, the chart needs to accommodate serial examination information for comparison with the initially recorded findings. This detailed evaluation of images assumes optimal conditions for processing and viewing. Magnification of 2 or 3X is recommended. Since visual perception is not entirely objective, the following guidelines have been used to reduce inconsistency in applying the classification.

1. If the examiner is uncertain whether a lesion is present, then the surface should be interpreted as caries-free.
2. When the examiner is unsure whether an image is R1 or R2, the lesser designation should be recorded. Little difficulty is encountered with R3 images.

A Rationale for Treatment and Follow-Up Radiography

For most new patients, two or four bitewings are part of the comprehensive examination. When the data from physical and radiographic examination have been recorded, using a method similar to the one suggested, treatment decisions can be made. These decisions will be influenced primarily by our present knowledge of the probabilities of cavitation and the rate of progression of caries. Although the following patient types are hypothetical, they represent a range of clinical situations which we will use to illustrate the current approach to treatment decisions and radiographic monitoring.

Patient with R1 lesions only: These lesions are treated by non-invasive methods unless direct inspection discloses cavitation, in which case restoration is required. The success of non-invasive therapy will be demonstrated by radiographic evidence of lack of progression or reversal at the subsequent recall examination. Only 20 per cent of these lesions will progress to R2.[27] Since the average rate of progression from R1 to R2 is between two and three years, the dentist could be confident that a follow-up bitewing taken in *one year* would show progression before dentine involvement. In the light of our current data on caries prevalence and rate of progression, the decision not to restore R1 lesions but to opt for comprehensive non-invasive therapy is applicable regardless of age, nutritional status, dental history or oral hygiene. While it is true that the progression rate in primary teeth is faster, the time interval suggested for the recall radiograph is well within the estimated progression rate of 24 months from outer enamel to dentine.[20] For all patients at the recall examination, if there is no progression of existing R1 lesions, then consideration is given to increasing the interval between bitewing examinations. Suggestions for intervals of 2-3 years have been made but it may be prudent to use a more gradual increase.

Patients with R1 and R2 Lesions: Although 50-55 per cent of the R2 lesions will eventually enter the dentine, the rate of progression is similar to that of the R1 lesion – that is approximately two years.[18,28,29] Again as with R1 lesions, unless cavitation is demonstrated by direct inspection, non-invasive therapy is the treatment of choice. A radiographic interval of one year is more than adequate to obviate any risk and is recommended. At this time, any lesions progressing to R3 are restored and the remainder recharted. Active non-invasive therapy is continued for R1 and R2 lesions.

Patients with R1, R2 and R3 lesions: The young patient with R3 lesions is at greatest risk. As noted earlier, for practical purposes it can be assumed that all R3 lesions have cavitation. When R3 lesions are present, there is an increased risk of progression of *all* enamel lesions. In addition, young patients with R3 lesions, although constituting only about 20 per cent of the population, account for over 50 per cent of all new dentine lesions.[18] For all R3 lesions, restoration is the treatment of choice. While this involves a slight risk of overtreatment, i.e. an unnecessary restoration for those lesions without cavitation, the risk of undertreatment is too great at this depth of carious penetration. After the R3 lesions have been restored, the remaining R1 and R2 lesions are treated non-invasively and then monitored by radiography in one year.

PATIENTS WITHOUT LESIONS

For these patients, an increasingly prevalent finding, the likelihood of caries developing is quite small. In Grondahl's study,[18] in a caries-free group of 13-year-old patients, only 3 per cent had lesions by age 16. These patients had been treated by non-invasive therapy. However, because the radiograph reveals less than half the existing subsurface lesions, it would seem prudent to radiograph even this group in one year. At that time, if still caries free, the interval should be increased to two years. A longer interval in subsequent years is indicated if the patient continues to be caries free. Should lesions be demonstrated, the treatment and radiographic monitoring intervals apply as previously described.

SUMMARY

The concept of non-invasive therapy for the treatment of proximal enamel lesions is a natural development from the new knowledge on caries prevalence, caries progression and remineralization. In addition, it

addresses a longstanding dilemma in dental treatment planning, which is the question of the role of restorations in the management of enamel lesions. Until very recently, the important distinction between cavities and subsurface enamel lesions, *both of which have identical radiographic images*, was not considered in treatment planning. Raper,[1] in a remarkably prescient view, stated that the longstanding rule of dentistry which held that all "cavities" should be restored as early as possible would require modification. He believed that the restoration of small lesions first disclosed by bitewings entailed too much destruction of sound tooth tissue and suggested that "we may develop some effective means of stopping the development of such cavities". Thus, Raper anticipated our present non-invasive approach by half a century, even including the periodic monitoring of these lesions by radiography.

During the years of epidemic caries, *all* lesions showing radiographically were restored as an essential component of the prevention philosophy of that era. At the time, fluoride use was not widespread and the role of remineralization was poorly understood. However, in the 1970's the International Collaborative Study[30] under the guidance of the World Health Organization revealed that in countries with government-sponsored health systems, where restoration of all lesions was practised as a preventive measure, the longevity of the dentition was significantly reduced in comparison with systems where restorative dentistry was not as universally available. Based upon such seemingly paradoxical findings, the emphasis in publicly-funded systems is now on primary prevention, including non-invasive therapy for enamel caries, with monitoring by bitewing radiographs as an essential element.[31]

The chief shortcoming of the non-invasive approach to caries treatment planning lies in the fact that although the radiograph is pivotal to the process, images of enamel caries cannot be used to differentiate between subsurface lesions and those with cavitation. To overcome this handicap, the treatment decision process must be based upon a knowledge of rates of progression and the probability of cavitation at the various lesion depths. The treatment protocols suggested in this paper were based upon this premise.

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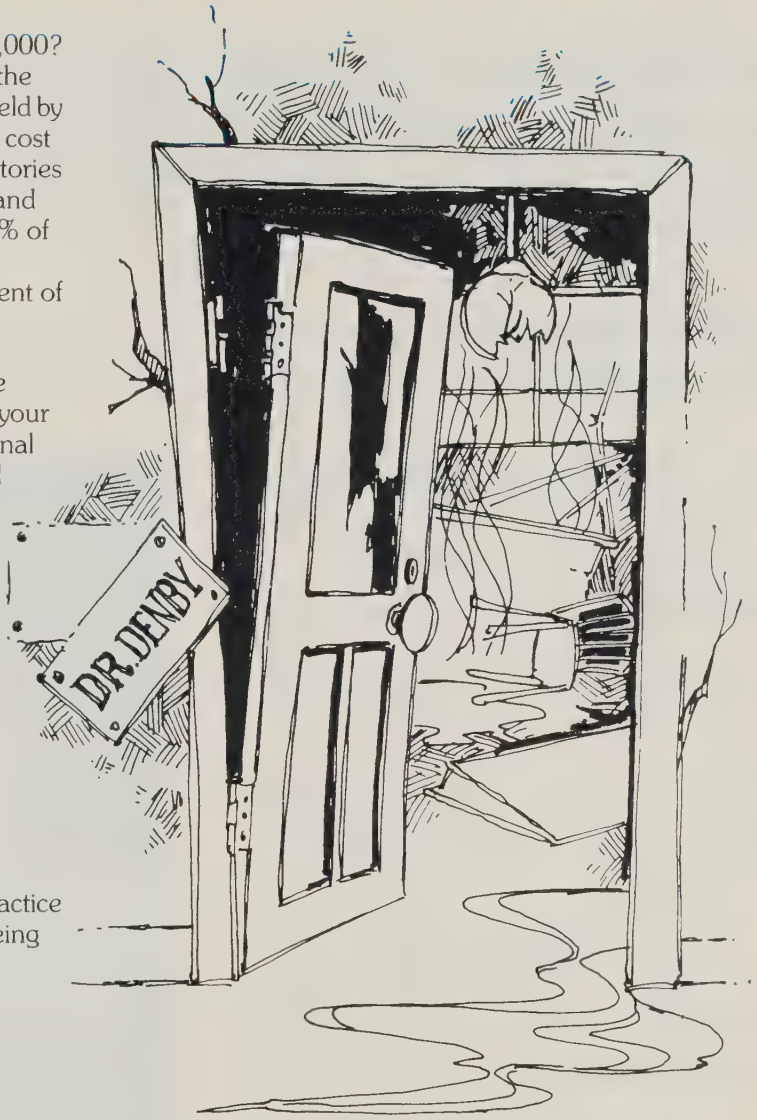

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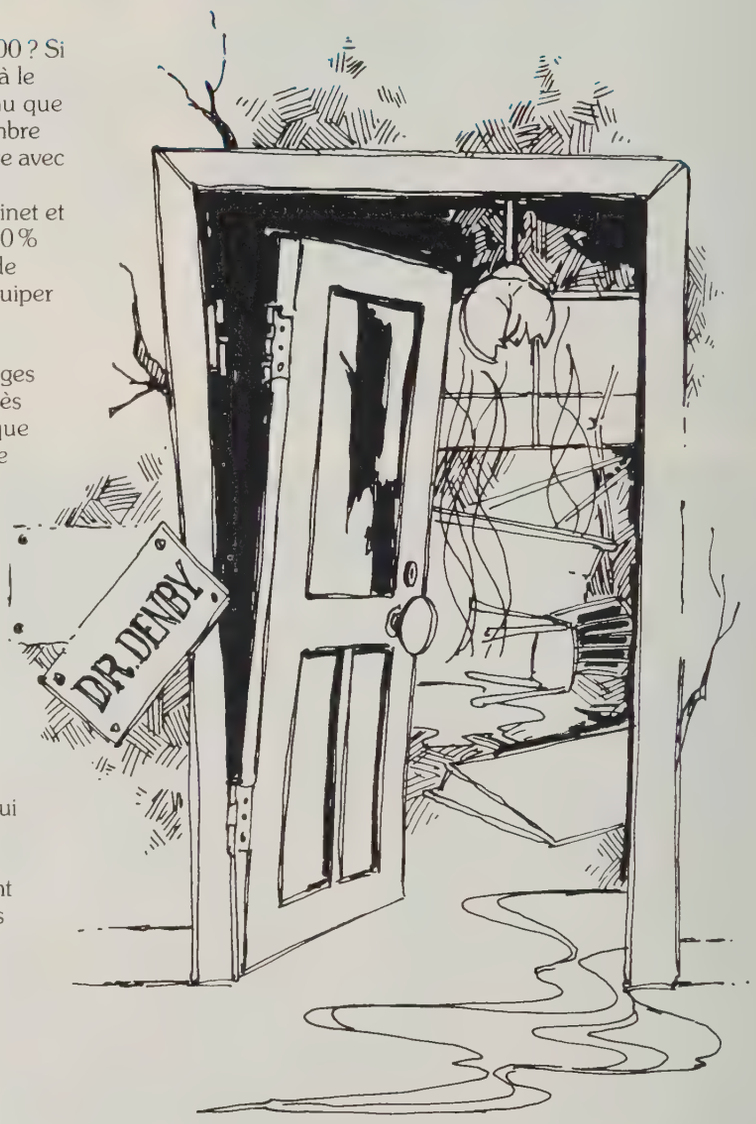

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BLEEDING AND HEMOSTASIS

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ABSTRACT

Physiological hemostasis is based on three modes – blood coagulation, platelets and vascular factor. Blood coagulation consists of a complex series of plasma protein interactions, resulting in the explosive appearance of thrombin and resulting formation of the fibrin glue. Platelets provide a physical plug and also pharmacodynamic agents. The vascular factor consists of the integrity of the blood vessel wall and the retraction and constriction of vessels as the normal response to injury. Vascular integrity and response are influenced by the nervous system, nutrition, endocrines, hemodynamics, blood composition and electrostatic charge on the vessel wall. An animal model has been designed for the study of spontaneous bleeding. Bleeding occurs spontaneously when defects occur or are produced simultaneously in two of the three modes of physiological hemostasis. Typical treatments which produce defects are: anticoagulant drugs, specific antigens (transfusions, proteins, many drugs such as aspirin) in sensitized individuals, nuclear radiation, radioactive isotopes, and stress and other treatments (including many common drugs) which affect the pituitary-adrenal axis and change adrenal steroid balance. Bleeding is typically internal with almost 100 per cent incidence and can result in a high mortality. The use of models based on this principle has permitted experiments meeting the requirements for sound statistical design, giving results with important clinical conclusions. Many drugs and treatments not hitherto suspected can cause hemorrhage when superimposed on anticoagulant treatment, hemophilia, platelet disorders, etc. or when combined with drugs which produce similar changes. The correction of bleeding will not remove the underlying hemorrhagic condition due to the unsuspected treatment. An important cause of hemorrhage is stress, which may be caused by the environment of the hospital, office or laboratory, by clinical procedures such as taking blood samples, injecting drugs, manipulations, and by actions of personnel. Anesthetics and sedatives are themselves hemorrhagic and do not prevent hemorrhage caused by stress.

SOMMAIRE

L'hémostase physiologique comporte trois modes: le mode plasmatique ou la coagulation, le mode plaquettaire et le mode vasculaire. Durant la coagulation, les protéines plasmatiques passent par toute une série complexe d'interactions qui provoquent l'apparition explosive de la thrombine, laquelle entraîne à son tour la formation d'une matière collante appelée fibrine. Durant le mode plaquettaire, les plaquettes, en plus de fournir des agents pharmacologiques, forment un agrégat qu'on appelle clou plaquettaire ou clou plasmatique. Durant le mode vasculaire, les vaisseaux sanguins retrouvent leur intégrité en se rétractant et en se resserrant sous l'effet de la blessure. L'intégrité et la réponse vasculaires dépendent du système nerveux, de l'alimentation, des glandes endocrines, de l'hémodynamique, de la composition du sang et de la charge électrostatique sur la paroi des vaisseaux. On a conçu un modèle animal pour étudier les saignements spontanés. Les saignements se produisent spontanément lorsque des anomalies surviennent ou se produisent simultanément durant deux des trois modes de l'hémostase physiologique. Les traitements typiques qui causent des anomalies sont l'administration d'anticoagulants ou de certains antigènes (transfusions, protéines, plusieurs médicaments comme l'aspirine) chez les personnes sensibles, les rayons nucléaires, les isotopes radioactifs et le stress. Ajoutons également d'autres traitements (dont bon nombre de médicaments ordinaires) qui affectent l'axe hypophyso-surrénal et modifient l'équilibre des corticoïdes. De façon caractéristique, les saignements sont internes avec une incidence de presque 100 pour cent et peuvent entraîner souvent la mort. Suivant ce principe, l'utilisation de modèles a permis de faire des expériences répondant aux exigences imposées pour obtenir un bon aperçu statistique et donnant des résultats dont les conclusions cliniques sont importantes. On a découvert que bon nombre de médicaments et de traitements qui ne soulevaient aucun doute auparavant, peuvent causer des hémorragies lorsqu'on les ajoute à l'administration d'anticoagulants, à l'hémophilie, aux désordres plaquettaires, etc. ou lorsqu'on les mêle avec des médicaments qui produisent des changements similaires. En arrêtant un saignement, on n'enraie pas la tendance sous-jacente à l'hémorragie causée par le traitement insuspect. Le stress, qui est une importante cause des hémorragies, peut être causé par le milieu dans un hôpital, un cabinet ou un laboratoire, par des procédures cliniques comme les prises de sang, les injections de drogues et les manipulations, ainsi que par le comportement du personnel. Les anesthésiques et les sédatifs sont des agents hémorragiques proprement dits et ne préviennent pas les hémorragies causées par le stress.

The problem of bleeding and its control (hemostasis) has been of intense interest not only to mankind in general but to the great pioneers in medicine and surgery – Galen, Paré, Hewson, Lister and Virchow. Galen[1] pointed out the most effective hemostatic procedure is pressure applied to the bleeding point. Bleeding is usually self-limiting and this suggests that hemostasis is provided by body mechanisms.

Pertinent experimental and clinical observations made by many investigators were summarized in the 1930's by MacFarlane,[2] Tocantins,[3] and Roskam.[4] They recognized three distinct modes of hemostasis – blood coagulation, platelets and vascular factor. Clinical hemorrhagic conditions were recognized corresponding to defects in each of these modes and the number of such conditions increases each year.

Each of the three modes of hemostasis consists of many components participating in a complex series of events (**Fig. 1**, **Tables I** and **II**). Blood coagulation (**Fig. 1**) consists of a series of protein interactions based on changes induced in a number of proenzymes (the prothrombin complex and associated activators), resulting in the explosive appearance of thrombin (the thrombin tide) and its rapid disappearance due to antithrombins, etc. The concept of separate extrinsic and intrinsic pathways refers to differences in reactions occurring in a test tube with and without the addition of extrinsic factor (thromboplastin, tissue factor). The coagulation process results in the simultaneous activation of Kallikrein-Kinin, plasminogen, some components of the complement system and subsequent interactions. The sudden appearance of large amounts of active thrombin causes the conversion of much of the plasma fibrinogen to fibrin, which provides both a gel (liquid to solid transformation of the blood) and a glue to cement platelets to themselves and to endothelium. The participation of the Kinin and fibrinolytic systems ensures changes in blood flow and modification of the seal in the blood vessel to fit the break which occurred.

Phylogenetically, platelets provide an alternative cellular hemostatic barrier which probably represents in evolution an even earlier process than the fibrin mechanism. In mammals it has become a highly unique specialized contribution to hemostasis. Rapid changes in the platelet membrane when these cells come in contact with damaged tissue result in their becoming highly adhesive to foreign materials, to each other and to endothelium, and also to undergo morphological changes. This results in various actions which occur simultaneously (**Table I**). These do not lend themselves to a flow sheet; hence, they are simply listed in **Table I**. In these actions, one can distinguish the provision by platelets of a plug to close the gap in the vessel wall and the provision of different pharmacological agents. The local accumulation of platelets results in the local application of a high concentration of such agents, a number of which promote platelet aggregation (thus accelerating the changes). PGE_2 and cationic protein enhance vessel tone; mitogenic factor stimulates the proliferation and migration of smooth muscle cells, and thromboxane A_A and PGE_2 cause vasoconstriction.

The importance of the state of the cardiovascular system in the maintenance of hemostasis has been shown by a wide spectrum of experimental and clinical observations provided by a wide range of disciplines. Influences acting on this phase of hemostasis are summarized in the left hand column of **Table II**. The integrity of the blood vessel wall is affected by the nervous system, nutrition, endocrines, hemodynamics and blood composition. This may be thought of as the passive phase of hemostasis, but it is important in determining the effectiveness of the active phase, and its remarkable responsiveness to influences from the central nervous system and endocrine system is responsible for a wide spectrum of clinical problems and phenomena due to changes in hemostasis.

On the microvascular scale, changes in vascular integrity will be the result of changes in endothelial cells, junctions between endothelial cells, and in the basement membrane. Changes at the junctions appear to be due to contractile elements in endothelial cells and pericytes in conjunction with fibrinectin.[8] The processes involved in the response to vessel injury (**Table II**) are also involved in the maintenance of the integrity of the vessel wall and in control of spontaneous hemorrhage in the normal individual.

As indicated in **Figure 1** and **Tables I** and **II**, the three modes of hemostasis interact. These are mutually supportive and constitute a normal physiological basis for a defence in depth. It is also being more widely recognized that most of their effectiveness in hemostasis is due to reactions close to the vessel wall (adjacent plasma layer, endothelium, sub-endothelium, etc.) and not in the central blood stream where alone the reactions correspond to some degree to what happens in a test tube. The ongoing process of hemostasis in the body can be visualized as occurring in two phases. In the first (primary) phase, effects are due to smooth muscle and platelets, while in the second phase, irreversible platelet agglutination with subsequent fibrin formation are predominant.

Different disciplines have focused attention on one or other of the modes of hemostasis. For a century, biochemists and physiologists have considered blood coagulation as the mechanism of hemostasis and this tradition has been continued by clinical pathologists. Since 1937, the date of clinical introduction of heparin therapy, millions of patients have had their coagulation system suspended by administration of anticoagulants of many types. According to the biochemical view, these individuals should have died of hemorrhage. In fact, this was predicted as the very probable result of our bold proposal to use heparin clinically, when Dr. Gordon Murray revealed to clinicians at the Toronto General Hospital in 1935 that heparin had been obtained which was suitable for clinical use. Actually, relatively few patients so treated have shown bleeding and for those who did, there was no correlation between the incidence of bleeding and degree of anticoagulation. On the other hand, with the identification by Bizozzero[10] of the importance of platelets in hemostasis and in the etiology of thrombosis, microanatomists and pathologists have considered platelets the major factor in hemostasis. This view has been reinforced by the finding that aspirin and other drugs that can cause bleeding damage platelets. Again, bleeding is not the invariable accompaniment of such damage. Surgeons (following Lister[11]) and nutritionists (since Linde's study of scurvy in 1759) have recognized the significance of defects in vessel walls as a cause of bleeding. Hence the importance in normal hemostasis of a normal vessel wall and its response, and this has been more generally recognized recently with the development of vascular prostheses.

A MODEL FOR INVESTIGATING CAUSES OF BLEEDING

For over 50 years, I have received complaints from clinicians that one or other of the above concepts does not provide them with an understanding of what they see in their patients, i.e., these schemes fail to explain why some patients hemorrhage while others who would appear to be more at risk, do not. To examine the causes of bleeding requires a suitable animal model. We have found that a suitable model results when treatments are combined which result simultaneously in defects in *two* modes of hemostasis. This procedure results in a clear clinical syndrome – spontaneous hemorrhage.

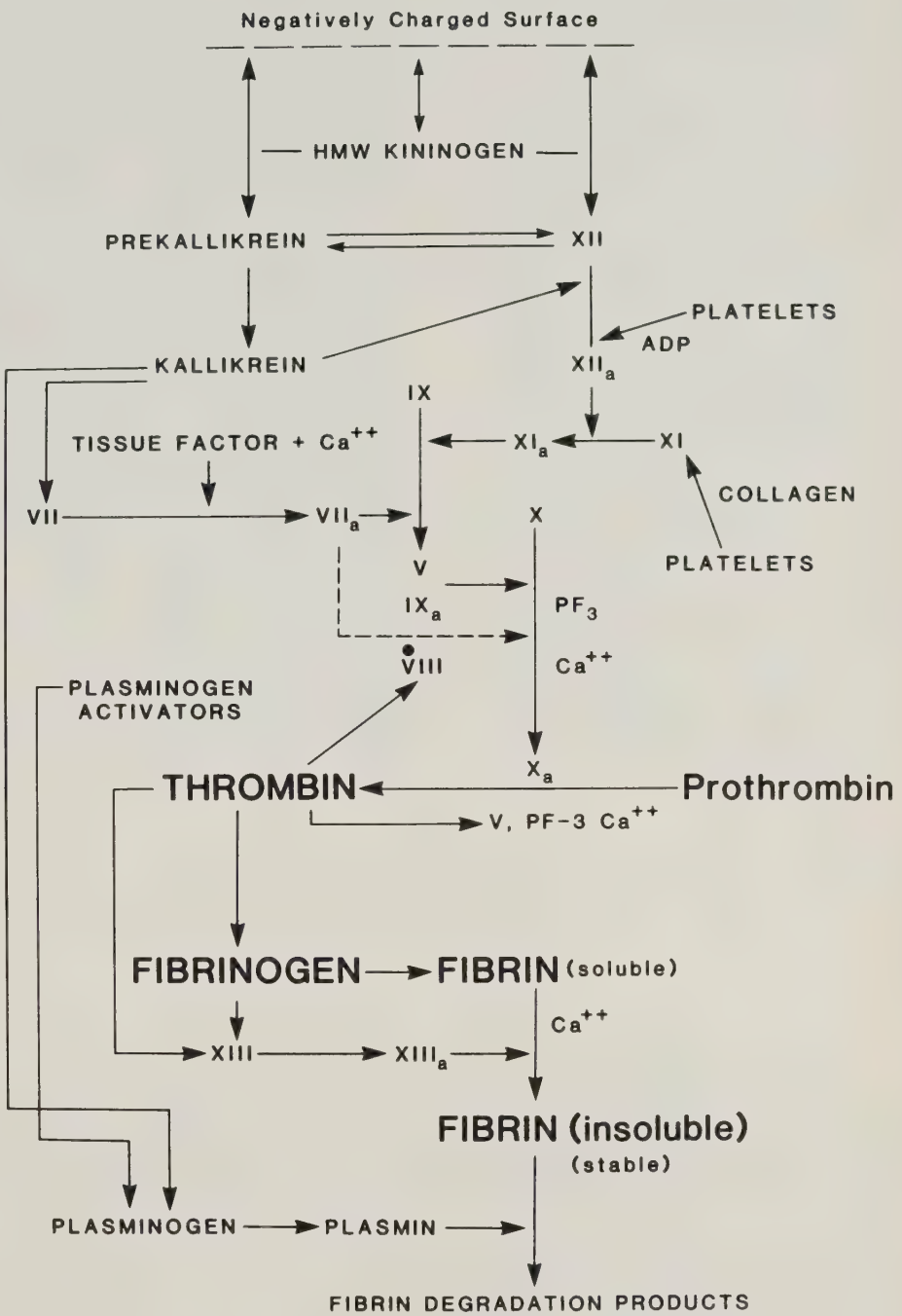
Spontaneous hemorrhage refers to the occurrence of bleeding without intentional interference with the blood vessel wall. It

can be measured by the extravascular appearance of blood and by the loss of materials from the circulation. It never occurs in normal animals when they are properly cared for; nor does it occur with certain species receiving anticoagulants – e.g. dogs given heparin, rabbits given phenindione. It has been found, however, that a syndrome of intense spontaneous hemorrhage can be elicited by additional treatment of such animals. This syndrome is accompanied by a very high mortality due to extensive internal hemorrhage, a finding which demonstrates that hemostasis *is* an important physiological protective mechanism. Death from hemorrhage usually occurs about 48 hours after the known direct effects of the treatments reach their maximum. The surviving animals show some anemia and weakness and when sacrificed up to five days later, they are found to have extensive internal hemorrhage. We call this condition the "spontaneous hemorrhage syndrome" to emphasize that the considerable internal hemorrhage found is not attributable to trauma. The site of hemorrhage shows considerable variations in different animals. There may be considerable free blood in the pleural or peritoneal cavity, hematomas in subcutaneous tissue, etc. Hemorrhage into tubular structures occurs – wall of the bowel, vas deferens, etc. External hemorrhage, particularly from the mouth or anus, may be observed but is not common. Superficial injuries similar to those in hemophilics are seen and dissection demonstrates that swellings are due to the accumulation of free blood in the tissues. The most common picture is that of free blood in body cavities, hemorrhages in viscera, pronounced anemia of lung, liver and other tissues. When gross hemorrhage is not found, extensive hemorrhage is found microscopically in many tissues indicating sufficient loss of blood from the circulation to cause death.

The spontaneous hemorrhage syndrome has been produced by many treatment combinations.[12] Approximately 40 treatments have been used. The single treatments do not give a mortality rate greater than 10 per cent and seldom produce hemorrhage. Only when treatments are given in combination is there a high mortality from spontaneous hemorrhage. Three classes of treatments have been found to be effective hemorrhagic agents in combination: 1) agents which interfere with blood coagulation (anticoagulants); 2) agents which interfere with platelets; and 3) treatments which interfere with the vascular component of hemostasis. It is the combination of treatments belonging to different classes which produce hemorrhage, not the combination of two treatments of the same class. For example, if dicumarol is administered to rabbits and

FIGURE 1

The Blood Coagulation Cascade and its Interrelationships (After Messmore[5]).



Roman numerals in the figure were assigned by the International Committee for Nomenclature of Blood Coagulation Factors and refer to plasma factors involved in the activation of prothrombin and stabilization of fibrin. *a* refers to an activated form of the factor (enzyme). Synthesis in the liver of prothrombin, Factors VII, IX, X, protein C (anticoagulant and fibrinolytic), protein S (protein C co-factor) requires vitamin K and is depressed by dicumarol-type drugs.

after the anticoagulant effect has developed (hypoprothrombinemia requiring 28 hours to develop), heparin is administered, spontaneous hemorrhage does not occur. If, however, stress is administered to rabbits or reserpine to rats when they receive dicumarol, many of the animals will die of hemorrhage. Hence, spontaneous hemorrhage occurs when two of the three mechanisms of hemostasis are blocked but not when only one is blocked.

CLINICAL APPLICATIONS

It was explained above that physiological hemostasis involves blood coagulation, platelets and vascular integrity-response. Studies on animal models[13] based on this principle demonstrate that bleeding which is the symptom of deficient hemostasis is the result of the combined effects of defects developing in more than one of the modes of hemostasis – blood coagulation, platelets, vascular factor. While blood coagulation and platelets receive most attention, these modalities are relatively stable, although drugs have been found which interfere (either intentionally as in the case of the anticoagulants, or unintentionally as with the interference with platelet function by aspirin, radioisotopes, etc.). The vascular factor, however, is very responsive to hormonal and nervous system influences. Most significant in this regard is stress, which markedly affects the integrity of the blood vessel wall. Many drugs have a hemorrhagic effect which appears to be due both to the stress of administration and to drug effects on the pituitary-adrenal axis. The significance of these findings in dentistry was demonstrated by Lucas[14] who showed the value of hypnosis for extraction in hemophilic patients.

Since bleeding and its prevention (hemostasis are the result of several factors operating simultaneously, its study requires a multifactorial analysis based on the principles established by Fisher[15] and described in his classical work – The Design of Experiment. The statistical methods used in research studies by all clinical investigators in dentistry and medicine are based on the principles described in this work. Fisher was engaged in agricultural research and was therefore able to design experiments in which variables were assigned to different *plots* in different *blocks* in different *fields*. In clinical studies, one is always faced with the *post hoc* situation. Even when planning an investigation of patients prior to treatment, the data will be collected from individuals who fall fortuitously into the groups assigned in the design. This was not what Fisher meant in his paper. While statistical formulas and procedures used in clinical investigations are to a great extent based on Fisher's work and ideas, few investigators have observed his restrictions on the experimental design before using such formulas. This has been due to the exigencies of the clinical situation. In animal studies,[16] it was possible to conduct a multifactorial study for identification of the factors responsible for spontaneous hemorrhage by recording the resulting gross and microscopic pathology in whole animals quantitatively, in terms of incidence or degree of hemorrhage. Clinical studies of the phenomenon of bleeding to date have only been of an anecdotal nature. Individual cases described to me by clinicians have illustrated the conclusions reached in the animal experiments. An undertaking to assess the exact clinical significance of the factors described requires the collection of a large amount of data on a large population of patients. In a small pilot study attempted, a major obstacle was the lack of information in the case records compared to essential anecdotal information obtained in interviews, so that a clinical study corresponding to our animal studies would encounter many design problems.

In applying the conclusions reached to clinical bleeding, it should first be emphasized that the degree of spontaneous hemorrhage caused by the simultaneous application of several agents or treatments is not the sum of the results for the separate treatments. Thus, for rabbits receiving dicumarol or three types of stress, the mortality figure for the sum of the separate treatments was 0/87, while for combined treatments it was 37/63 – 59 per cent. In other words, one and one is not two but 11. Combining two treatments raises the hazard to a new level. These results undoubtedly explain the apparent randomness of clinical bleeding, particularly in view of the identification in our studies of many procedures and drugs which cause hemorrhage but are not usually recognized in case histories involving a bleeding episode.

The understanding of the multicausal nature of spontaneous hemorrhage has resulted in a new appreciation of hemorrhage as a diagnostic symptom. It is now axiomatic with urologists that when a patient on anticoagulant treatment shows blood in the urine to look for pathology in the genitourinary system; a number of early carcinomas have thus been detected. In our animal work, when animals on moderate doses of anticoagulants alone develop hemorrhage, we found that it meant either defective animal care and management or that the air conditioning or some other aspect of the building structure or maintenance was providing a severe stress to the animals. This suggests an aspect of hospital and office care about which valuable information could be obtained by conducting a statistical study of the relationship of such factors to the occurrence of bleeding in anticoagulated patients. Genetic disorders (e.g. hemophilia), vitamin and dietary defi-

TABLE I

Platelet Changes in Hemostasis

Trapping of Platelets: Vascular injury exposes denuded subendothelium. The collagen in the presence of von Willebrand factor traps platelets.

Platelet Release Reaction: Adhering platelets are activated to mobilize intracellular Ca^{2+} which promotes PG-synthesis (PGG_2, PGH_2, TxA_2) which act on storage organelles to release agents (see below).

Platelet Aggregation and Viscous Metamorphosis (V.M.): Activated platelets are aggregated by thrombin formed in the platelet atmosphere and release PG's, TxA_2 with growth of the aggregate. Ca^{2+} activates the platelet contractile system (actomyosin) in the fragile aggregate to give the *consolidated* aggregate.

Haemostatic Plug Formation: Contact of aggregates with damaged endothelium and subendothelium gives firm attached clumps – the plug.

Fibrin formation: between platelets, between platelets and endothelium, and in free blood in the closed, sealed vessel gives final reinforcement to the plug.

Substances released or formed by platelets released from platelet granules by collagen, thrombin, etc. – ADP, ATP, serotonin, calcium, fibrinogen, platelet factor 4 (heparin-neutralizing activity), ß-thromboglobulin, cationic protein, mitogen for smooth muscle cells, proteoglycan, pyrophosphate, biogenic amines.

Formed by platelets after arachidonate is freed from platelet phospholipids – Prostaglandins G_2, H_2, E_2, D_2, $F_{2\infty}$, thromboxane A_2 and B_2, malondialdehyde, HETE.

Other substances from platelets – collagenase, elastase, ? + C_5 → chemotactic material.

Formation of the Platelet Plug.[4-6] For references for substances released from platelets see Packham et al.[7]

ciencies which affect each of the three modes of hemostasis are known and the same principle applied to the occurrence of bleeding in such individuals.[17]

It was found that the subcutaneous injection of physiological saline to rats fed anticoagulants resulted in spontaneous hemorrhage. Other experiments demonstrated that the procedure of taking blood samples daily for five days (for coagulation tests) was responsible for considerable hemorrhage and consequent mortality in rabbits given dicumarol. A high incidence of hemorrhagic symptoms has been reported for elderly anticoagulated patients.[18] The clinicians concerned did not consider the possibility that taking of numerous blood samples (reported for 'control' of the anticoagulant), with accompanying stress were responsible for the hemorrhages observed.

The observations reported of the hemorrhagic effect of CNS drugs have obvious clinical significance. It has long been known that general anesthetics, such as ether, cause stress. Their use in animals subjected to frost-bite was probably an additional hemorrhagic agent in our first experiments. For this reason and also as a result of finding that needle punctures constituted a stress, depressant drugs were administered to animals in food; even so, the drugs proved hemorrhagic. The results demonstrate that other drugs given to patients receiving anticoagulants may be the cause of hemorrhage and in any patient experiencing a hemorrhagic episode, all drugs taken must be suspect.

It is evident that treatment of hemorrhagic episodes requires a much broader rationale than simple treatment of a single bleeding point. It has long been recognized that prevention is more successful than direct treatment. Of the various approaches suggested by the physiological basis of hemostasis, the first are treatments which interfere directly with one of the hemorrhagic agents – vitamin K to block the action of the prothrombopenic drug, cortisone to reverse the hemorrhagic tendency produced with adrenal insufficiency. Such suspensions of the action of one hemorrhagic agent or condition can result in a dramatic cessation of bleeding. However, it must be emphasized that only one of the hemorrhagic factors acting in the individual has been suspended. The other factor is still active and the subject is still a potential bleeder. Thus the cessation of bleeding by reversal of an anticoagulant, although of prime importance, does not demonstrate that the patient is out of danger. It can result in a false sense of security, and a further insult to hemostasis, such as induction of thrombocytopenia by the drugs used (protamine, etc.) or by transfusion to treat the bleeding, will precipitate a fresh hemorrhagic episode.

The sensory pathways for stress are still unexplored. Registration of stress by the CNS is very rapid. We observed in rats that in the time taken to give an intravenous injection of a barbiturate and for resulting anesthesia to develop (i.e., for the drug to act on the brain), a total period of about two minutes, the processes for production of such stress symptoms as fall in adrenal ascorbic acid, hemorrhage with anticoagulants, etc., have been set in motion. Thus, it was not possible to test whether general anesthesia diminished hemorrhage from stress. However, the fact that all CNS depressants administered in food with an anticoagulant were hemorrhagic, and increase hemorrhagic parameters when imposed together with stress and anticoagulant make it very likely that all general anesthetics provide a major stress.

The only ways we have found to prevent symptoms of stress in rats is by training (gentling the rats and accustoming them to the injection procedure for some weeks), by prior stress (with partial success), and by heparinization after (but not before) stress. In hemophilics, before highly potent concentrates of hemophilic factors were available, hypnosis was found to be an effective procedure for control of bleeding, particularly in dental extractions. These results suggest the great importance in reducing the danger of hemorrhage, of "bedside manners" of clinicians, nurses, laboratory assistants and all who are involved in care of the patient. The hospital, office or laboratory environment can constitute the second hemorrhagic factor.

With the very great interest in stress and the common ascription to it of many clinical problems and complications, it is surprising that few references are made to our experiments on spontaneous hemorrhage which show that in well controlled experiments, stress can lead to death in a large percentage of prepared animals. It is obvious that the principle established provides a very useful operational procedure for examination of hemostasis. The simultaneous application of two or more treatments gives easily measured indicators. This procedure makes possible for the first time, the assessment of physiologic factors governing hemostasis, including hormonal and nervous components. It provides a means for quantitative testing of the contribution of a specific body component to hemostatic efficiency. It provides pharmacology and experimental therapeutics with a means of testing quantitatively the action and effectiveness of a drug or procedure in stopping hemorrhage. At a time when there is so much opposition to whole animal studies, it should be pointed out that the demonstration presented here of observations of great significance to patients was only possible on the basis of studies of groups of animals, with careful observation

TABLE II

The Vascular Component of Hemostasis

Cardiovascular Status	Response to Vessel Injury
INTEGRITY OF THE BLOOD VESSEL WALL IS DETERMINED BY:	RETRACTION AND CONSTRICTION OF VESSELS
Nervous System: cortex and midbrainlimbic system and reticular formation → vasomotor centres → reflex vessel tone; pituitary → ACTH, etc.	*Mechanical:* Cutting vessel removes stretch with shortening (isometric to isotonic contraction).
Nutrition: proteins, lipids, vitamins C and K, Na^+, K^+	*Reflex:* Segmental constriction of vessel.
Endocrines: STH, corticosteroids, estrogens, etc.	*Constriction* by Autopharmacodynamic Agents released locally: Adrenochrome from sympathetic endings, from platelets, thromboxane-A_2, adrenalin, serotonin, histamine. In platelets, activation of phospholipases A_2 and C by Ca^{++} occurs, to cleave phospholipids, to release arachidonic acid to give thromboxane-A_2.
Haemodynamics: Blood pressure, blood flow, tissue fluid pressure.	*Biochemical:* Actin + Myosin (ATP) → Actomyosin.
Blood Composition: O_2, CO_2, pH, oncotic pressure, etc.	
Vessel Wall: Negative charge due to heparins and heparitins.[9]	
PASSIVE	ACTIVE

of each individual whole animal. This demonstration could not have been achieved in any other way; neither by post hoc clinical examination nor by observation of tissue reactions or of simulated systems.

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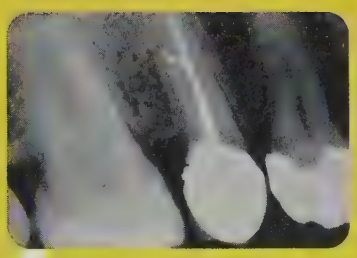

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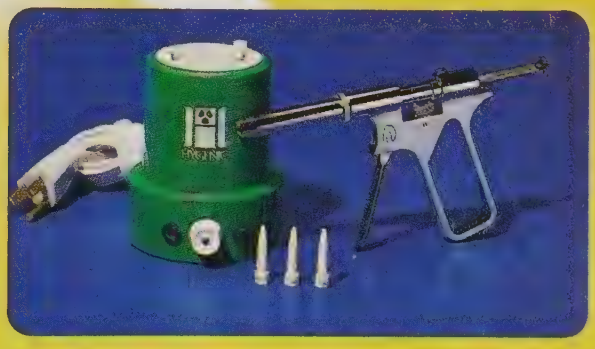

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MYOFASCIAL HEADACHE

EXACERBATION OF SYMPTOMS DUE TO DIFLUNISAL AND RANITIDINE THERAPY A CASE REPORT

Gerard L. Lapeer, DDS
Kingston, Ont.

ABSTRACT

Headaches may result from a number of etiological factors. This article presents a case of the successful treatment of a myofascial headache with a recurrence of symptoms following ranitidine therapy. It is important for the clinician to monitor the patient's drug intake, since adverse drug reactions can mask therapeutic success or failure.

SOMMAIRE

Divers facteurs étiologiques peuvent provoquer des maux de tête. Voici le cas d'une personne qu'on a traitée avec succès et qui souffrait de maux de tête d'origine myofaciale avec récurrence des symptomes après thérapie à la ranitidine. Il importe que le clinicien contrôle les médicaments qu'un patient prend, étant donné que des réactions adverses peuvent masquer la réussite ou l'échec de la thérapie.

Headache is a common, painful condition with a multitude of etiological factors.[1] One form of headache which may present a difficult diagnostic problem for the clinician is the iatrogenic headache resulting from drug therapy.[2,3] This article presents the case of a patient who was treated successfully for headache of myofascial origin, but as a result of the erroneous decision by the clinician to change the occlusal splint therapy protocol, experienced temporomandibular joint capsilitis. This condition was treated with diflunisal, which resulted in malaena and duodenal ulceration. Ranitidine was then prescribed; however even this caused an exacerbation of headache symptoms.

CASE REPORT

The patient, a 72-year-old Caucasian male, developed myofascial pain dysfunction syndrome shortly after the completion of extensive restorative dentistry. Symptoms included bilateral incapacitating headaches in the anterior temporalis regions. His medical history was noncontributory.

Two months after continually wearing a maxillary acrylic occlusal splint, the patient was symptom free. He was then instructed to wear the appliance only at night. Seventy-two hours after the new routine began, he developed severe pain in the right temporomandibular joint. The joint was warm to touch and tender to pressure applied laterally and posteriorly from the external auditory meatus. The diagnosis was acute temporomandibular joint capsilitis, possibly caused by the abrupt change in the splint-wearing routine. The patient was instructed to resume wearing his splint continuously. Diflunisal, 500 mg b.i.d. was prescribed for 10 days and his symptoms rapidly decreased. He reported no pain at the end of the 10-day period.

Two days after cessation of the diflunisal therapy, the patient was admitted to hospital with malaena. Endoscopy demonstrated duodenal ulceration and the patient was placed on ranitidine I.V. for two days, with total resolution of the malaena. He was discharged and a seven week course of oral ranitidine, 150 mg b.i.d. was prescribed. After six weeks, he again presented in the dental office with severe temporal headaches, despite the fact that he was continually wearing the occlusal splint. Symptomatic relief was obtained only with 30-60 mg of codeine. On questioning, the patient also complained of a severe abdominal skin rash, and he was instructed to see his physician immediately. Ranitidine was discontinued and his headache symptoms and skin rash abated within 48 hours. He has been observed carefully by both physician and dentist for three months and neither ulcers nor headache symptoms have recurred. He is presently wearing his splint continuously and is not taking any medication. He reports feeling fine.

DISCUSSION

Diflunisal is a non-steroidal anti-inflammatory agent which has been reported to cause gastrointestinal bleeding and ulceration.[4,5] Since the patient had no previous history of gastrointestinal problems and since symptoms occurred shortly after diflunisal administration began and abated when it was discontinued, one might conclude that the malaena and duodenal ulceration could have resulted from diflunisal consumption.

Ranitidine is a selective, competitive histamine H_2-receptor antagonist for the short-term treatment of gastric hypersecretory conditions and active duodenal ulceration.[6] Mild headache and skin rashes have been reported with its use[6] but severe headache has been reported infrequently.[7,8] This patient experienced the return of severe incapacitating headaches and developed a skin rash concurrent with the use of ranitidine, despite the continuation of previously successful occlusal splint therapy. These symptoms disappeared when ranitidine was discontinued.

There are many reasons why previously successful treatments seem to fail or why indicated treatments fail to produce the expected results. As the above example emphasizes, it is important for the dental practitioner to be fully aware of all the patient's medication consumption and the possible associated adverse drug reactions when evaluating treatment outcomes.

Dr. Lapeer is on the staff of the Department of Dental Surgery, St. Mary's of the Lake Hospital, Kingston, Ont.

Reprint requests to **Dr. Lapeer**, St. Mary's of the Lake Hospital, Box 3600, Kingston, Ont. K7L 5A2.

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Announcements

AUGUST/AOÛT

August 10-19: Modern Periodontics in General Practice, a series of one day seminars organized by the Education and Research Committee of the New Zealand Dental Association. Contact: Dr. Malcolm S. Farry, P.O. Box 6056, Dunedin, New Zealand.

August 15-21: Head, Neck and Orofacial Pain Management, a ski seminar in Queenstown. Contact: South Pacific Seminar, 33 Arney Road, Auckland 5, New Zealand.

August 21-23: California Dental Association's Fall Scientific Session, San Francisco, California. Contact: Cissie Cooper, 818 'K' Street Mall, Post Office Box 13749, Sacramento, CA, 95853-4749, (916) 443-0505, (800) 421-8702.

August 21-23: 3rd Annual Symposium of the American College of Oral Implantology, Kiawah Island Resort, South Carolina. Contact: Margaret M. Jackson, Executive Director, I.C.O.I., P.O. Box 2277, Grand Central Station, New York, New York, 10163. (201) 783-6300.

August 24-29: Biennial Conference of the New Zealand Dental Association, Wellington, New Zealand. Contact: Dr. Robert A. Stallworthy, NZDA, P.O. Box 3709, Wellington, New Zealand.

August 28-29: Bio-Research TMJ Seminar, Los Angeles, California. Contact: Bio-Research Associates, 2315 North Lake Drive, Milwaukee, Wisconsin, 53211.

August 31–September 1: Second National Conference on Chemical Dependency in the Dental Profession, at the ADA Headquarters in Chicago. Special airline fares have been secured for registrants. Contact: Mr. Bill Oberg at (312) 440-2622.

SEPTEMBER/SEPTEMBRE

September 3-4: Success — How to Make it Happen, sponsored by the Hawaiian Dental Association. Contact the Continuing Education Committee of the Association at: 1000 Bishop Street, Suite 805, Honolulu, Hawaii, 96813.

September 11-18: Academy of General Dentistry's Autumn Foreign Conference, Denmark to Norway. Post-conference optional tour available. Contact: Kathleen O'Donnell (312) 440-4308.

September 17-19: Canadian Association of Orthodontists Annual Scientific Meeting, l'Hôtel, Toronto. Scheduled speakers are Dr. Robert Ricketts and Dr. Donald Woodside. Contact: Catherine Anderson-Brown, Canadian Association of Orthodontists, 2175 Sheppard Avenue East, Suite 110, Willowdale, Ontario, M2J 1W8, (416) 491-2886.

September 17-19: Canadian Academy of Restorative Dentistry Annual Meeting, Hilton Hotel International, Québec City, Québec. Simultaneous translation program, registrations limited. Contact: Dr. Hubert Gaucher, Dental School, Laval University, Québec, Québec, G1K 7P4, (418) 656-5557.

September 17-19: Greater Niagara Frontier Dental Meeting, Buffalo Convention Center, Buffalo, New York. Contact: Dr. David M. Weinman, 777 Hopkins Road, Williamsville, New York, 14221.

September 18-20: The Northern Ontario Dental Association Convention, Pinewood Park Motor Inn, North Bay, Ontario. Contact: Dr. Gaetan Fournier (705) 472-5300.

September 20-24: Orthognathic Seminar, Waitangi Hotel, New Zealand. Contact: The Secretary, Orthodontic Society, New Zealand Dental Association, P.O. Box 872, Tauranga, New Zealand.

September 21-22: British Society for Oral Medicine's 1st International Congress, Royal College of Physicians of London, London, England. Contact: Jennifer Nathan, Congress Secretary, B.S.O.M., International Congress, Dept. of Oral Medicine, The London Hospital Medical College, Turner Street, London, E1 2AD, UK.

September 23-26: Dentechnica Nuremberg 87 — 9th International Congress of Dental Technicians with Specialized Exhibition for Dental Laboratories, Nuremberg Exhibition Centre, Nuremberg, West Germany. Motto: "precision in dental technology is not a matter of chance". Contact: NMA Nürnberger Messe-und, Ausstellungsgesellschaft mbH, Messezentrum, D-8500, Nürnberg 50.

OCTOBER/OCTOBRE

October 4-7: New Zealand Dental Association Meeting, Nelson, New Zealand. Contact: Dr. M. Towers, Conference Secretary, 318 Trafalgar Square, Nelson, New Zealand.

October 10-13: American Dental Association Annual Convention. Las Vegas, Nevada. Contact: ADA office of international affairs, 211 E. Chicago Ave., Chicago, Ill. USA 60611.

October 19-21: NIH Consensus Development Conference on Geriatric Assessment Methods for Clinical Decisionmaking, Masur Auditorium, Clinical Center, National Institutes of Health, Bethesda, Maryland. Contact: Marti Bernstein, Prospect Associates, 1801 Rockville Pike, Suite 500, Rockville, MD, 20852.

October 21-24: American Academy of Periodontology's 73rd Annual Meeting, Marriott and Fairmont Hotels, Denver, Colorado. Contact: Jean Pierson (312) 787-5518.

October 22-25: The 15th Expodental and the 2nd Expotechnodental, Milan, Italy, at the Milan Fair. Contact: Expodental, 20123 Milano, via Tamburini 2, Italy.

October 23-27: 44th Annual Meeting of the American Institute of Oral Biology, Spa Hotel, Palm Springs, California. Contact: Executive Secretary, P.O. Box 481, South Laguna, California, 92677.

October 24-30: 85th Annual World Dental Congress of the FDI. Buenos Aires, Argentina. Contact: Dr. R.H. Lemme, Congressos Internationales, SA, Moreno 584-9e, Piso (1091) Buenos Aires, Argentina.

October 29–November 1: Canadian Academy of Endodontics Convention, Toronto, Ontario. Contact: Dr. Martin Gelfand, 487 Lawrence Avenue West, Toronto, Ontario, M5M 1C6.

October 30-31: Periodontal Restoration Relationship Symposium, Toronto, Ontario. Clinicians include Dr. Herman Corn, Dr. Myron Nevins and Dr. Kenneth Malament. Contact: Professional Development, The Ontario Dental Association, 234 St. George Street, Toronto, Ontario, M5R 2P1, (416) 922-3900.

NOVEMBER/NOVEMBRE

November 3-6: Clinical course on rehabilitation of edentulism by means of osseointegration, Catholic University Leuven, Belgium. Contact the University at: Faculty of Medicine, Dept. of Periodontology, Capucijnenvoer 7, B-3000 Leuven (Belgium).

November 5-6: The Psychosocial Aspects of Craniofacial Problems; Surgery is not Enough, sponsored by the Humana Craniofacial and Pediatric Neurosurgery Institutes, Weston Hotel Galleria in Dallas, Texas. Contact: Linda Andrews, Humana Advanced Surgical Institutes, 7777 Forest Lane, Dallas, Texas, 75230.

November 5-7: Second District Dental Association of Pennsylvania's Annual Dental conference, Sheraton-Valley Forge Hotel and Convention Center, King of Prussia, Pennsylvania. Speakers will include Dr. Ronald Goldstein and Dr. R. Sheldon Stein. All day programs, table clinics and special programs. Contact: B.J. Dencler, Conference Coordinator, 1039 Louise Lane, Allentown, Pennsylvania, 18103. 215-820-4062.

November 5-9: Education, Attitudes, Motivation and Marketing, a venture trek outdoors seminar at Ohakune. Contact: South Pacific Seminars, 33 Arney Street, Auckland 5, New Zealand.

November 8-11: The Saul Kamen Seminar in the Management and Treatment of the Developmentally Disabled Dental Patient, at the Jewish Institute for Geriatric Care, New Hyde Park, New York. Contact: Ann J. Boehme, Associate Director for Continuing Education, Long Island Jewish Medical Center, New Hyde Park, New York, 11042. (718) 470-8650.

November 11-13: First International Congress on Oral Cancer, Singapore. Special features include Reconstructive and Microvascular Surgery. Speakers include Professor Westbury of Royal Marsden Hospital, U.K. and Professor Hugo Obwegeser of Switzerland. Contact: Dr. N. Ravindranathan, Organizing Secretary, First International Congress in Oral Cancer, Department of Oral and Maxillofacial Surgery, Faculty of Dentistry, National University Hospital, Lower Kent Ridge Road, Singapore, 0511.

November 19, Oahu, **November 20**, Kauai: **An update on Pain Control and Emergency Medicine in Dentistry**, sponsored by the Hawaiian Dental Association. Contact the Continuing Education Committee of the Association at: 1000 Bishop Street, Suite 805, Honolulu, Hawaii, 96813.

November 26: Toronto Academy of Dentistry's 50th Annual Winter Clinic, Metropolitan Toronto Convention Centre, 255 Front Street West, Toronto, Ontario. Contact: Academy of Dentistry at (416) 967-5649.

November 27: Practice Management, Royal York Hotel, Toronto. Chuck Sorenson, lecturer. Fee: AGD members $125, non members $200. Contact: Dr. Marotta (416) 735-3310.

JANUARY 1988

January 19-23: Hawaii Dental Association's 85th Annual Scientific Session, Hilton Hawaiian Village Hotel, Honolulu, Hawaii. Contact the Association at (808) 536-2135.

January 28-30: Miami Winter Meeting – A Climate for Excellence, Miami, Florida. Table Clinic applications are available. Contact: Dotti DuBreuil, East Coast District Dental Society, 420 South Dixie Highway, Suite 2-E, Coral Gables, Florida, 33146. (305) 667-3647.

January 28 – February 1: 13th Asian Pacific Dental Congress and 42nd IDA Conference, New Delhi, India. Theme Esthetic Dentistry. Contact: Secretariat, C-56, N.D.S.E. – II, New Delhi 110 049.

FEBRUARY 1988

February 19: Scientific Session of the Academy of Dental Materials, Hillenbrand Auditorium, American Dental Association, Chicago, Illinois. A poster session is planned. For information concerning this contact Dr. Evan Greener, Dept. of Biological Materials, Northwestern University Dental School, 311 E. Chicago Avenue, Rm. 10-019, Chicago, Illinois, 60611, USA. For information concerning the meeting phone (312) 908-6887 or (312) 642-9570.

MARCH 1988

March 11-15: International Association for Dental Research meeting, Montréal, Québec. Contact: International Association for Dental Research, 1111 14th Street N.W., Suite 1000, Washington, D.C., 20005. (202) 898-1050.

APRIL 1988

April 14-17: California Dental Association's Spring Scientific Session, Anaheim, California. Contact: Cissie Cooper, 818 'K' Street Mall, Post Office Box 13749, Sacramento, CA, 95853-4749, (916) 443-0505, (800) 421-8702.

MAY 1988

May 15-20: 25th Australian Dental Congress, Sydney, Australia. "An international meeting during Australia's bicentennial". A limited number of brochures are available at the CDA, or contact: 25th Australian Dental Congress, P.O. Box 29, Parkville, Victoria, Australia, 3052.

JULY 1988

July 1-3: British Dental Association's Annual Conference, Harrogate International Conference Centre, Harrogate, Yorkshire (UK). "Facing the Future". Contact: Linda Bridges, Conference Office, 64 Wimpole St., London, England. W1M 8AL.

AUGUST 1988

August 7-11: Ninth Congress of the International Association of Dentistry for the Handicapped, Philadelphia, PA. Contact: Public Relations, (215) 576-2303, Abington Memorial Hospital, Abington, PA. 19001.

August 21-24: Canadian Dental Association's Annual Convention, at the Edmonton Convention Centre, Edmonton, Alberta. Contact: Linda Teteruck, Canadian Dental Association, 1815 Alta Vista Dr., Ottawa K1G 3Y6. (613) 523-1770.

August 21-25: New Zealand Dental Association's Biennial Conference, Christchurch, New Zealand. Contact: Dr. E.A. Cope, Conference Secretary, 200 Cashel Street, Christchurch 1, New Zealand.

SEPTEMBER 1988

September 23-25: California Dental Association's Fall Scientific Session, San Francisco, California. Contact: Cissie Cooper, Director, Scientific Sessions, CDA, 818 "K" Street Mall, P.O. Box 13749, Sacramento, California, 95853-4749. (916) 443-0505.

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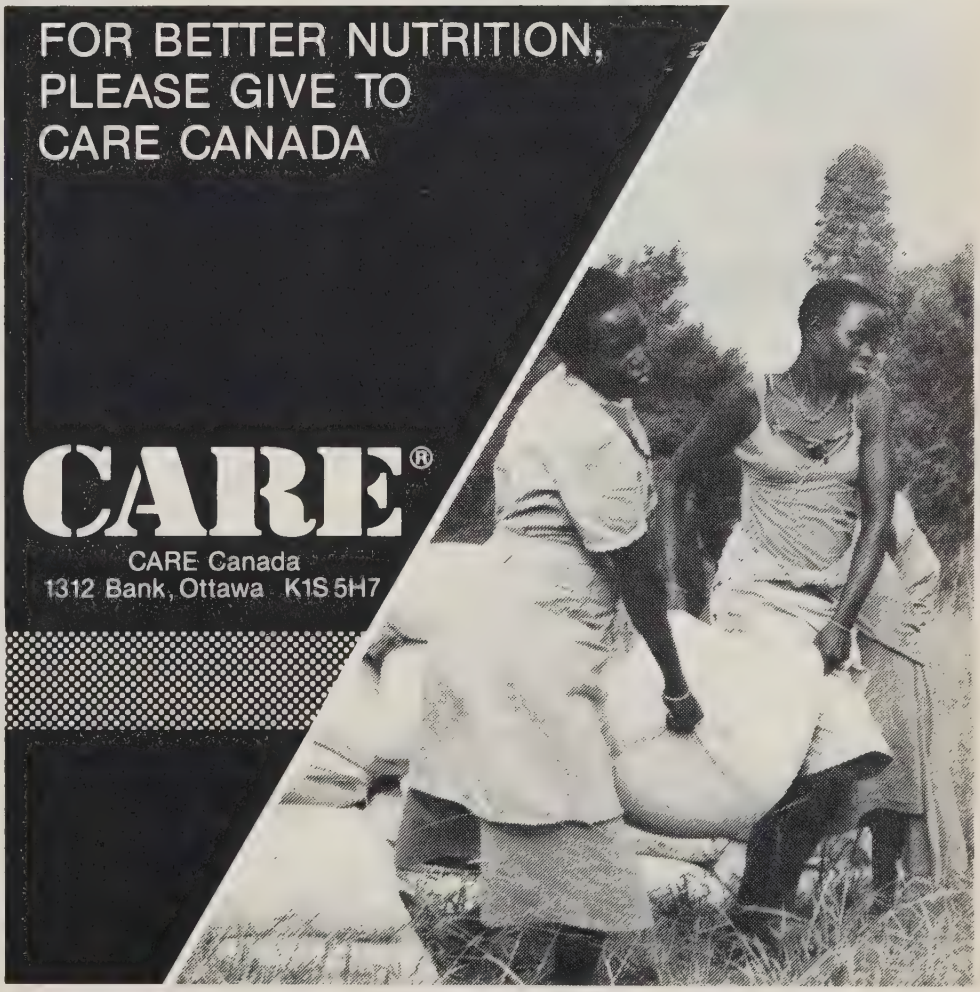

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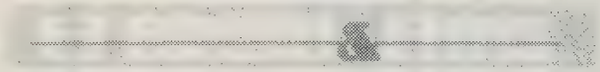

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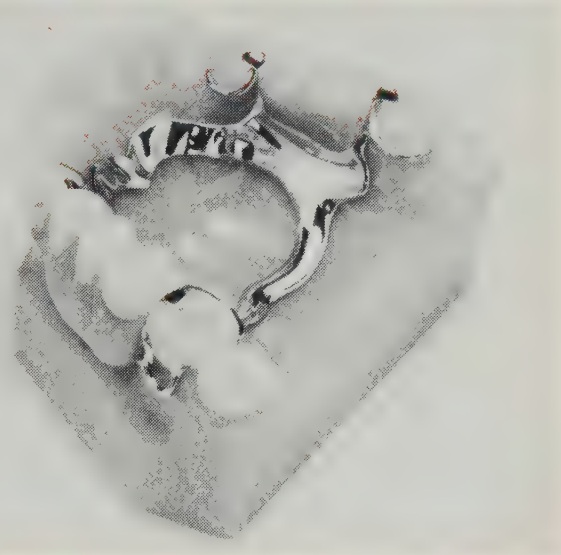

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SASKATCHEWAN: PRACTICE FOR SALE – Fully modern equipped Pelton & Crane 5 operatory preventive oriented practice doing all aspects of dentistry. Owner wishes to return to school but will remain for 1 year after sale for transitional purposes. Phone (306) 384-7191 (office) or (306) 955-2234 (home).

SASKATCHEWAN: Busy, high volume, new, ultra-modern clinic located in mall. 3 fully equipped operatories, 4th operatory serviced, 1 hygiene operatory, 3 lab areas. Owner returning to school. Reasonable price. Please reply to CDA Box 2362.

SOUTHERN SASKATCHEWAN: Busy 6 year old practice for sale. 3 fully-equipped operatories plus 2 rooms plumbed for expansion. Office known for its efficient and friendly delivery of care. Quality staff including hygienist. Reply to CDA Box No. 2365.

ONTARIO—Sudbury district: For sale six year old family practice, one operatory, lab and reception area. Low overhead, good as satellite, underserviced area grant available. Will consider an associate. Phone: 705-437-3821 or 705-898-2108 or 416-775-5379.

ONTARIO: Pediatric Dental practice, in North East (central) Toronto, available for associate, partner or buy out. Present owner will remain, in whatever capacity desired, for as long as mutually agreeable. Very successful (financially and professionally) progressive practice – flexible financing. Please write or call Dr. Marvin Klotz, Suite 403, 4800 Leslie St., Willowdale, Ontario, M2J 2K9. (416) 493-2211.

NOVA SCOTIA—Halifax – Established downtown general practice for sale, located in Purdy's Wharf. Sale includes share of modern equipment, sundries, and term lease of office space. Practice includes a large recall clientele (mostly adult). Suitable for an experienced operator or two graduates. Apply to Box CDA 2327 or in confidence to Dr. Stewart Keddy, 43 Westridge Dr., Halifax B3M 3K3.

ASSOCIATESHIP AVAILABLE

NORTHWEST TERRITORIES: Excellent opportunity for associateship in Yellowknife in modern state of the art dental clinic. Excellent support staff and good recreational facilities. Emphasis on good quality dentistry and we require dedicated efficient dentist concerned with patient care and management. Excellent remuneration and arctic travel available. Please reply to CDA Box No. 2367.

BRITISH COLUMBIA: Associateship leading to purchase. Well established Pedodontic Practice, 1500 square foot, 7 chair, downtown office on the north side of a superbly located building. Location was selected because of excellent view of mountains and ocean. Inquiries: Dr. G.M. Jinks, DDS, FRCD, 301-1701 W. Broadway, VANCOUVER, B.C., V6J 1Y3, phone – (604) 731-4608 Mon. - Thurs.

BRITISH COLUMBIA: Help! Busy mall office requires associate (partnership preferable) to take over 1/3 of existing office practice. Current associate leaving; remaining two dentists too busy to handle it all. This

modern preventive office is 15 minutes from downtown Vancouver. Please contact Dr. Dave Kapusianyk (604) 276-8134.

BRITISH COLUMBIA—Comox Valley: Associate required for busy family dental practice. An excellent opportunity for a recent graduate or family wishing to settle in a well established community. Renowned for its excellent recreational opportunities. Please call (604) 338-5381 Collect Dr. Heather Chisholm.

BRITISH COLUMBIA—Delta (Vancouver suburb): New busy modern family oriented practice looking for associate who would become equal partner. Alternate shared hours would particularly suit female with family priorities. Contact: Dr. Susan Braun, 8300 112th Street, Delta, B.C., V4C 4W8. Telephone (604) 596-3384.

BRITISH COLUMBIA: Associateship Available – Associate required immediately in busy general quality practice in Lillooet, B.C. by the Fraser river. This is an excellent opportunity for the right individual in a pleasant, enjoyable environment for full or part time at a generous percentage split. Enthusiastic, quality conscious individuals are asked to contact: Dr. Barry Goldberg or Rita McDonald at Box 188, Lillooet, B.C. V0K 1V0 (phone) (604) 256-4616.

BRITISH COLUMBIA—ASSOCIATESHIP AVAILABLE & HYGIENIST REQUIRED in Prince George, B.C. as part of busy well established practice – full patient load immediately. High annual gross. Great outdoor recreation opportunities. Contact: Dr. D. Kjorven, #201 – 1531 8th Ave., Prince George, B.C. V2L 3R3, 604-564-7337 (office), 562-6834 (home).

ALBERTA: Associate required for busy, rural practice with possibility of future purchase. Associate could begin August '87. Modern, well equipped practice in a town of 5,000 people located 200 km northeast of Edmonton. Please reply to CDA Box 2366.

ALBERTA: Associateship or salaried position. Best opportunity in the country – Medicine Hat, Alberta – to join modern group dental clinic with 3 doctors and 3 hygienists. Latest equipment. Available immediately. Flexible hours. Phone Dr. Cliff Hrankowski (403) 526-8694 or Dr. Elwin Kershaw (403) 526-0772 (Office: (403) 526-0777).

ALBERTA: Associate wanted for full-scope active oral and maxillofacial surgery practice in Calgary, Alberta. Candidate must be trained in all aspects of the specialty and eligible for specialty licensure in the province of Alberta. Please send CV and picture to CDA Box no. 2371.

ALBERTA: 2 Associates needed immediately in Red Deer and Calgary. Red Deer office is located in Parkland Mall – the largest mall in Red Deer. A beautiful office in prime location with high earning potential. Calgary office is in MacLeod mall in south Calgary. A great location with excellent earning potential. Both Associateships have opportunity for future partnership. Contact Dr. Bob Ronaghan (403) 235-3888 or Dr. Bill Wilson (403) 258-3444.

ALBERTA: OWN YOUR OWN PRACTICE – Looking for a fast working associate to help with a 2 office, single doctor practice, that has grown too big to handle. Practices are located in Lethbridge area of Southern Alberta, are 5 years old and within one hour travelling time of each other. New building being built for one practice; all equipment state of the art. Either practice for sale after successful associateship established. Contact Dr. Harold Elke: Tue, Thu, Fri (403) 732-5621; Mon, Wed, (403) 647-2482.

ALBERTA—Edmonton: ASSOCIATE WANTED – In well-established extended-hour practice, with opportunity for purchase in future. Excellent opportunity for an ambitious quality-oriented practitioner. Reply to CDA Box 2369.

ONTARIO: Associate required for shopping centre location in growing Ottawa-West. Join a caring, progressive group with in-office periodontic, orthodontic and oral surgery specialists as well as general family dentistry. Excellent opportunity to prosper and grow. Contact Susann at (613) 592-2900.

ONTARIO—Ottawa: Associate required. Full time. General practice. Preventive orientation. Starting Fall '87. Partnership possibility. Dr. P.M. Edmison (613) 820-9300 Days, (613) 592-7001 Evenings.

ONTARIO—Ottawa: ENDODONTIST wanted to join busy two man office as full time associate with opportunity for partnership. Please reply to CDA box no. 2373.

ONTARIO—Ottawa: ASSOCIATE – PARTNERSHIP: Full time associate required for well established modern dental facility, long term arrangement with view to full partnership. Call Dr. Len Burman (613) 745-7450 (Days) (613) 521-0565 (Evenings).

ONTARIO—Windsor: ASSOCIATE/PARTNER – High energy, motivated dentist for busy, progressive, quality-oriented practice; full or part-time; early buy-in potential. Please contact CDA Box 2363.

ONTARIO—Associate Opportunity – Ambitious full or part-time associate wanted for a well established, growing, high quality, family preventive practice. Located in a beautiful year round recreational atmosphere of southern Georgian Bay. Fabulous boating, fishing, hunting, golf, and skiing available. Modern, bilingual, open concept four operatory quality facility, with full-time hygienist. Progressive, relaxed atmosphere offers unique and excellent opportunity for a young conscientious dynamic, energetic graduate to practice all branches of dentistry with an enthusiastic and talented staff. Hospital privileges are available. Exceptional caring dentist as an associate, with a view to full partnership wanted. Solid professional environment, along with encouraged continuing education will allow you to maximize your potential in dentistry and will provide you with an exciting and rewarding experience. Call Collect: David P. Scanlon. Days – (705) 549-3355. Evenings – (705) 526-5550.

ONTARIO: ASSOCIATE wanted for Oral and Maxillofacial surgery practice in Eastern Ontario. Candidate should be certified as specialist in Ontario or should be eligible for specialty certification. Send Résumé to Box 2360.

ONTARIO: WANTED: NEW GRADUATE TO ASSOCIATE – in one of Hamilton's finest private practices, and develop your professional skills without the financial burden of opening an office. Please forward your resume, personal profile and goals. Call evenings only (416) 648-3079.

QUÉBEC—Brossard (15 minutes from downtown Montreal): Bilingual associate for a ten year old practice located in a major commercial centre. Suburb is rapidly expanding and has a young cosmopolitan population of professional and entrepreneurial class. Telephone (514) 465-9100.

NOVA SCOTIA—Halifax—Dartmouth: ASSOCIATE-PERIODONTIST – Periodontist wanted to join established periodontal partnership as an associate with a view to partnership. Graduate of North American approved, Board eligible post-graduate program. Contact Periodontal Associates – Drs. Hannigan, Andrews and Foshay, Suite 590, 5991 Spring Garden Road, Halifax, Nova Scotia B3H 1Y6.

NOVA SCOTIA—Sydney: Associate required to replace departing partner. Will have own patient load, scheduling and use of equipment full time. Family practice is seven years old and is a preventive practice. Contact Dr. B. Macdonald (902) 539-3072 day or night.

OPPORTUNITIES AVAILABLE

BRITISH COLUMBIA: WANTED — A qualified practitioner to do general practice dentistry in Dental Clinic operated by The United Church of Canada at Baie Verte on the north coast of Newfoundland. This is a salaried position with fully equipped and staffed office available in 40 bed Accredited acute care hospital. Housing is supplied and generous fringe benefits. Contact: Dr. W.D. Watt, Superintendent of Hospitals, 6762 Cypress Street, Vancouver, B.C. V6P 5L8. Phone (604) 266-5426.

BRITISH COLUMBIA—Nanaimo: DENTAL HYGIENIST REQUIRED. Full or part time position available in a periodontal practice. Send resumé to Dr. P.E. Shaw-Wood, Box 4516, Station A, Nanaimo, B.C., V9R 6E8 or call collect 604-756-1276.

ALBERTA—Hinton: Dental Hygienist required. Full or part time position. Contact Dr. Richard Zier-Vogel (403) 865-3823 or Dr. Ken Panylyk (403) 865-7198.

SASKATCHEWAN: Full-time registered dental hygienist for downtown preventive practice. Excellent working environment and flexible working hours. Please contact: Drs. Finningley, Moore & Saganski, 229B 4th Avenue South, Saskatoon, Sask. S7K 4K3. (306) 665-8414.

SASKATCHEWAN: Practice opportunity for associate dentist to join extended hour Medical & Dental Clinic with 70,000 medical visits per year. Recently opened Dental Clinic growing by 6-10 new patients per day. Apply with resumé to Dr. R. Katz, 357 Albert St., Regina, Saskatchewan, S4R 2N6. (306) 775-2175.

NORTHWESTERN ONTARIO: HYGIENIST — Public health position available for part-time or full-time hygienist. For more information, please contact: Dr. L.W. Armstrong, Director, Preventive Dental Services, Northwestern Health Unit, 15 Ocean Avenue West, Kenora, Ontario, P9N 3W7. Tel. (807) 468-3147.

ONTARIO: Established Mississauga Ontario Endodontic Practice requires an experienced certified endodontist to join their cohesive group. This is an excellent opportunity for a quality oriented warm gutta percha advocate, who would like to relocate in beautiful booming Metropolitan Toronto. For further information please contact Dr. Ian D. Watson (416) 270-7512.

ONTARIO: Positions available immediately for Ontario certified Pedodontist and Orthodontist in busy North Toronto practice. Excellent in-house referral. Apply in confidence to CDA Box no. 2370.

NEWFOUNDLAND—St. John's: ASSOCIATE-PARTNER — Excellent opportunity to join a large, well-established group practice; full or part time with buy-in potential. Three locations. Please reply to CDA Box 2372.

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ONTARIO: SPECIALISTS — A general practitioner's office in association with busy medical office has approximately 500 sq. ft. of equipped dental space to rent for term or lease on a daily basis. Located at Don Mills and Steeles, Thornhill. You will have a separate reception, business and private office plus two fully equipped operatories. Shared space will include sterilization, staff and consultation rooms. Referrals will come from an excellent in-house base plus surrounding area. Space available October/November 1987. Reply CDA Box 2368.

EQUIPMENT

ONTARIO: FOR SALE — Three complete equipment groupings each consisting of: Dental-ez auto return chair with mounted light. Dental-ez side delivery unit with cabinet. Doctor's and Assistants' stools, Fibreoptic unit, Kavo handpieces, touchmatic cavitron, similat. Total grouping at $16,000.00 or best offer. Call evenings only (416) 648-3079.

BRITISH COLUMBIA: Phase contrast microspoce-Olympus BH.2 with T.V. camera, monitor — on custom stand — all attachments, connectors & supplies. $3500. Dr. A. van Hoek, (604) 384-1154, (604) 598-0668.

OFFICE AND PRACTICES

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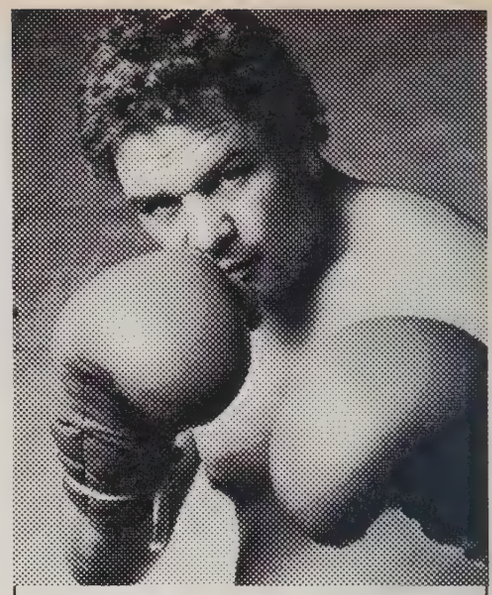

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This is a full-time position. Salary and commencement date to be discussed.

Applications including a curriculum vitae must be received **by September 30th, 1987.** reply to:

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Alberta Dental Association
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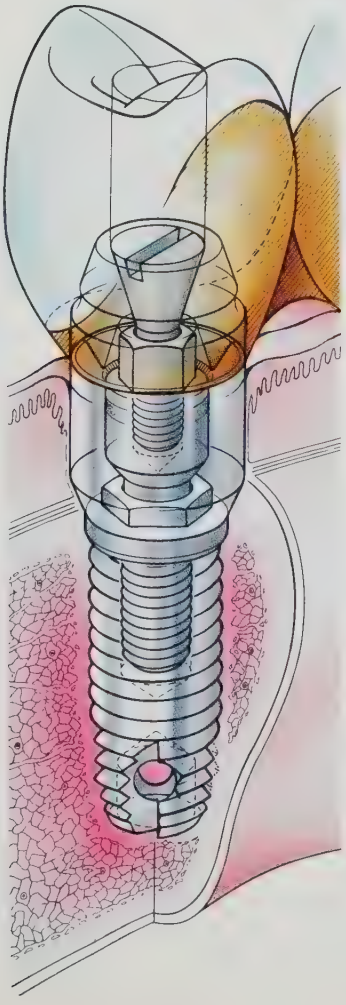

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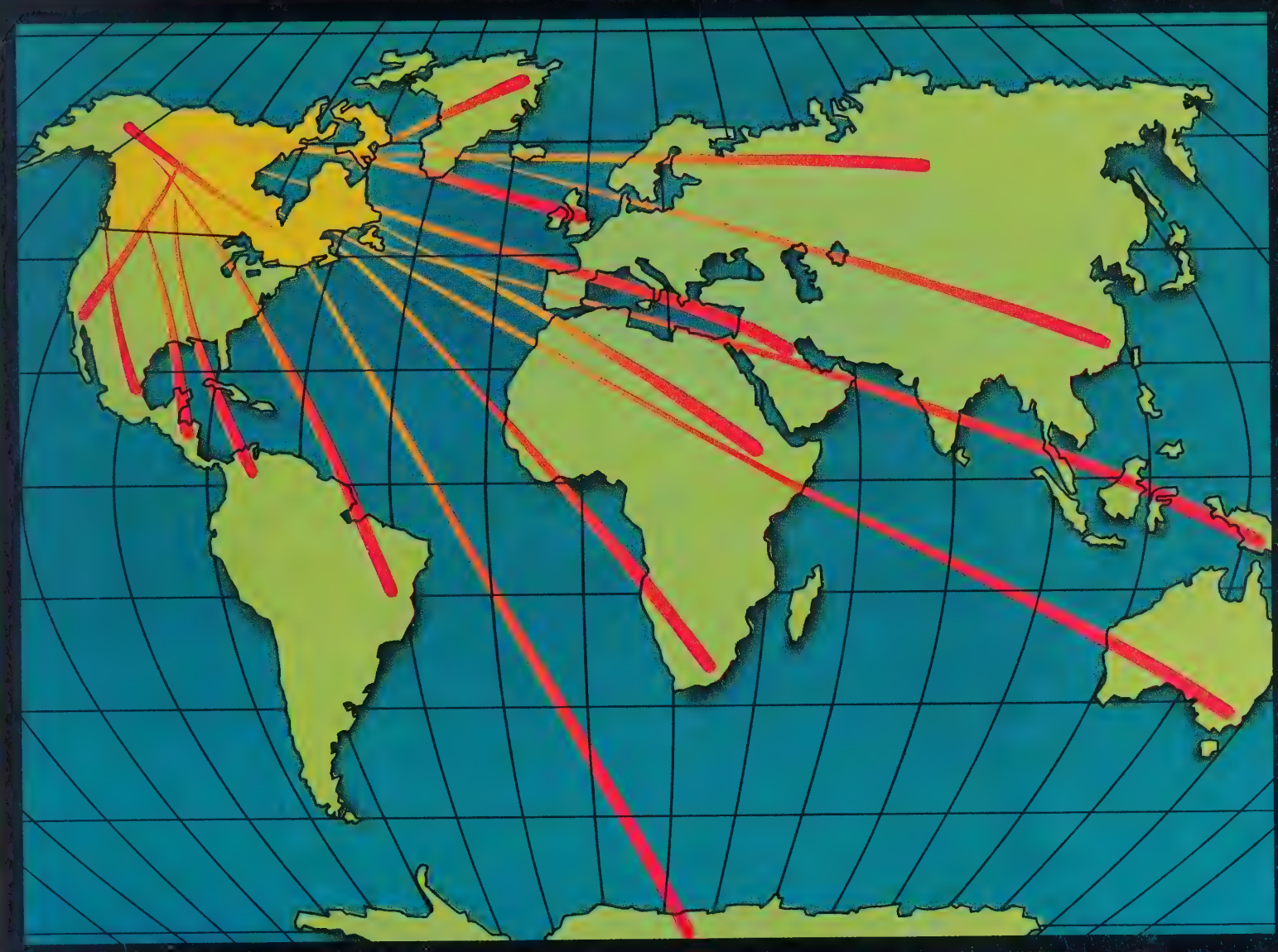

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Canadian Dental Association / de l'Association Dentaire Canadienne

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INTERNATIONAL DENTISTRY
CANADA'S LEADING ROLE

In our Journal this month, Dr. Robert Hicks is shown being appointed as the official British Columbia Ambassador for B.C. tourism and convention promotion purposes.

In another context, Dr. Hicks, along with many other prominent Canadian dentists including Drs. Ralph Barolet, George Beagrie, William Thompson, Derek Jones, Jim Wright and Pierre Desautels is one of several Canadian "ambassadors" for international dentistry. Canadians have, for many years, played leading roles on the international dental scene, through participation in the Fédération Dentaire Internationale, (FDI), the International Standards Organization (ISO), and the World Health Organization (WHO). Through their work on these international bodies, Canadian dentists have had both major input and major impact on dentistry worldwide.

Canadian programs, administered through CIDA and the World Health Organization have brought dental care and dental prevention to third world countries such as Haiti and Mozambique.

Canadian dentists, through their work with the ISO and the FDI are helping to set world standards for dental materials. In fact, CDA's Council on Dental Materials and Devices has as its members, the same dentists who are members of the ISO Committee on Dentistry. The names of Dr. Ralph Barolet, Dr. Derek Jones, Dr. Pierre Desautels and Dr. Dennis Smith are internationally known in the field of dental materials and standards.

Canadian input into the setting of international standards for dental materials has resulted in a recommendation by the Canadian Standards Association Steering Committee on Health Care Technology to the CSA Technical Committee on Dentistry to identify those ISO standards for dental materials that might be adopted as national standards for Canada.

Canadian dentistry is always well represented at FDI meetings with Canadians serving both as members and as chairpersons of FDI Commissions and Working Groups: Dr. William Thompson, a CDA Past-President is an FDI Councillor; Dr. Robert Hicks (also a Past-President) is Canada's National Treasurer for the FDI; Dr. Jim Wright is Vice-Chairman of the FDI Commission on Defence Forces Dental Services and Dr. George Beagrie is Chairman of the FDI Commission on Dental Education and Practice. All of these Canadian dentists are also CDA members and are active in the political life of the Canadian Dental Association.

International dental organizations, like the FDI and the ISO cannot function without the cooperation and involvement of dental practitioners from all of the countries of the world. Gaining a world consensus on issues facing dentistry or the health professions is about as easy as feeding the world's hungry or winning an Olympic medal. It takes hard work, training and additional dedication and effort from the professionals involved.

The FDI provides many practical benefits to dentistry worldwide as a result of this hard work. Among these benefits has been the support of dental care programs in third world countries; the study of the changing patterns of oral disease; the setting of international standards for dental materials and products and some assurance that quality in dental education and practice is reflected around the world.

While such activities may sound academic and idealistic, the general dentist in a general practice also derives direct benefits as illustrated by the evolution of standards for dental materials.

The FDI, the ISO and the WHO all do some very important work for dentistry and the general practitioner. Canadian dentistry benefits from their efforts. Conversely, the world organizations benefit from the large number of Canadian dentists working with them. Canadian dentistry should be proud of its international contributions and look for further opportunities to lead and to serve at the international level.

Carolyn Hackland
Editor, JCDA

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News Update

ATLANTIC BENEFITS CONSULTANTS COOL ON CAPITATION

by Toby Gushue, DDS

*(**Editor's Note:** The following report of a meeting held in the summer in Halifax for Atlantic area dentists, with Atlantic area benefits consultants, was submitted to the Journal for publication by Dr. Toby Gushue, a member of CDA's Third Party Dental Plans Committee.)*

On May 8, CDA's Third Party Dental Plans Committee was represented at a meeting in Halifax with Atlantic area benefit consultants and representatives of some insurance companies, to discuss capitation. This meeting was coordinated and hosted by the Nova Scotia Dental Association as part of its anti-capitation campaign.

Benefit consultants are key members of the health benefit industry. Consulting firms are usually hired by employers or unions to design their health benefit packages and to assist the buyers to search the market, i.e., the insurance companies, for the required package.

The purpose of the meeting with the benefit consultants was to make them aware of the concerns that Canadian dentists have with capitation plans, which included the loss of the patient's freedom of choice, a decreased level of care, and the addition of another level of administration with the consequential reduction in the treatment portion of the premium dollar.

Our aim as dentists was to present a positive picture of what Canadian dentistry has achieved in bringing the level of dental health to where it is in Canada today. This has been accomplished, in a large part, because employees have had the benefits of dental plans which generally have paid for fee-for-service dentistry. Particularly, many of these plans have encouraged prevention (100 per cent coverage), and this emphasis has been consistent with the dental profession's promotion of preventive measures.

It was apparent to the dentists who attended the meeting that generally, the benefit consultants see little value in capitation plans for the patient. Most indicated that they would not recommend such a plan to clients. Indeed, the representative of one national consulting firm stated that his company had already reviewed the capitation issue and had made a company decision not to recommend capitation plans.

The benefit consultants in attendance advised dentists to continue our dialogue, especially with the purchasers of dental plans, the employers and the unions. If the dental profession is to affect the future delivery of and payment for dental services we must become more active and visible in that marketplace.

FORMER DALHOUSIE DEAN TO BE HONORED BY THE CDA

Dr. James Douglas McLean, the dentist who served as Dean of the Faculty of Dentistry, Dalhousie University, Halifax, from 1954 to 1975, will receive the Canadian Dental Association's Distinguished Service Award at a luncheon on September 11, in conjunction with the Annual Meeting of the CDA Board of Governors, in Ottawa.

Earlier this year, Dr. McLean, who served as Dean at Dalhousie in a period noted as one in which the Faculty of Dentistry there enjoyed an era of remarkable progress, was honored with a honorary Doctor of Laws degree, at the spring convocation.

In addition to his contributions as Dean of Dentistry, Dr. McLean had also served as Professor of Dentistry, and when he had completed his terms as Dean, in 1975, he continued in his professorship until he retired in 1985.

The University and Faculty of Dentistry showed their gratitude to Dr. McLean in 1985, naming him Dean Emeritus.

A Saskatchewan native

Dr. McLean, who is a native of Regina, Saskatchewan, enrolled in Regina College of the University of Saskatchewan after high school matriculation in 1937. When he had completed his pre-dentistry studies, he moved on to the University of Toronto. He was awarded his DDS there in 1942. He later pursued studies in restorative dentistry at the University of Minnesota and the University of the Pacific.

Dr. McLean holds fellowships in the American College of Dentists, the International College of Dentists, the Royal College of Dentists (Canada) and the Academy of Dentistry International (Honorary).

He served with the Royal Canadian Dental Corps during the Second World War. In the period from 1942 to 1946, Dr. McLean saw service in Canada, Britain and Northwest Europe.

Following his wartime service, he set up a private practice back home in Regina. In 1947, he joined the Faculty of Dentistry of the University of Alberta. He continued to conduct a part-time practice, in Edmonton.

At Dalhousie University, Dr. McLean gained acclaim as an "innovator" in dental education. He sought faculty members with a wide range subject area expertise. He also recognized the importance of oral hygiene early in his career as dean, and established a program at Dalhousie to train professionals in that discipline.

Not only did he build an impressive body of faculty members but also brought Dalhousie distinction in teaching and research development. This success precipitated the need for more accommodation and Dr. McLean initiated the planning which resulted in two new buildings for the dentistry faculty.

Dr. McLean's interests and support have extended far beyond the field of dentistry. He has served as President of the local Halifax Branch, the Nova Scotia Division and the national level, of the Canadian Red Cross Society. As a supporter of the arts, he has been President of the noted Neptune Theatre's Board of Governors. Dr. McLean has also been Nova Scotia chairman of the Canadian Bible Society and chairman of the Pine Hill Divinity Hall's Board of Governors.

Dr. McLean and his wife Audrey are living in Bedford, Nova Scotia.

AIDS RESEARCH AWARDS OFFERED

Under the National Health Research and Development Program (NHRDP), Health and Welfare Canada will be making funds available in 1987-88 for AIDS research.

Under the auspices of the National AIDS Program, the "Special Training and Career Awards for AIDS Researchers" will provide special funds as personnel awards and for project development.

Applications may be made for awards in four categories: *The AIDS Postdoctoral Research Fellowships* will be offered to

highly qualified candidates with formal academic training, who wish to work up to two years in supervised research in an established AIDS research setting.

The National Health AIDS Research Scholar Awards will be offered to investigators with proven research abilities, who may then pursue AIDS research on a full time basis for as long as two years.

The NHRDP Short-term Visiting Research Program for AIDS Researchers will be available to Canadian researchers who wish to spend up to three months at an established AIDS research centre in Canada or abroad for training and development. This Program is intended to develop needed expertise and to transfer knowledge to the Canadian scene. Awards under the Program may also be offered to researchers outside Canada, sponsored by a Canadian institution, who have knowledge to share with Canadians.

The NHRDP AIDS Project Development Initiative (PDI) will offer funds to researchers to develop new AIDS projects and to expand current initiatives to other research and service delivery settings.

The NHRDP supports scientific research and related activities which provide information for the Department on issues concerning the health care system, environmental health, the health consequences of human behaviour and the health status of selected populations.

Persons interested in obtaining more information on the new NHRDP initiatives for AIDS research may write to the Director of Research Administration Division, Extramural Programs Directorate, Health and Welfare Canada, Ottawa K1A 1B4.

U.S. DENTISTS RESEARCH DRUG EFFECTS

According to two separate articles in the May/June 1987 issue of "General Dentistry", dentists should be aware of whether their patients are on steroidal drugs and aware of some of the potential uses for antihistamines in dental practice.

According to an article by Drs. Jeffrey Sacks of the Ohio State University College of Dentistry and William Gilmore of Tufts University School of Dental Medicine, all patients should be asked if they are taking or have taken steroidal drugs. If so, in taking their medical history, dentists should determine the route of administration, the dosage duration and the time since the last dose. If a patient is on a current steroid regimen, consultation with the patient's physician is essential, say Sacks and Gilmore. If more than two years have elapsed since the course of steroids was completed, no supplemental steroids are required ordinarily.

According to Sacks and Gilmore, the dental management of such affected patients is subjective and depends largely on the dentist's careful evaluation of the patient's physical and mental status and on the planned procedure. As a rule, the researchers said, it is far better to over-administer preoperative steroids to a debilitated, apprehensive patient than to err with insufficient doses. However, the researchers pointed out, routine procedures such as examinations, impressions and minor restorations are considered non-invasive and usually do not require prophylactic administration of steroids in the average compromised patient.

The researchers say that dentists should be concerned in an emergency situation when patients are on steroids and be aware that glucocorticoid administration alters wound healing. For this reason, post operative wound infection is a concern as is the drug induced suppression of the normal inflammatory response which can lead to decreased host resistance to infections. Sacks and Gilmore pointed out, therefore, that when planning any procedure which has a potential for producing significant bacteria in patients undergoing glucocorticoid therapy appropriate antibiotic coverage should be included in the treatment plan.

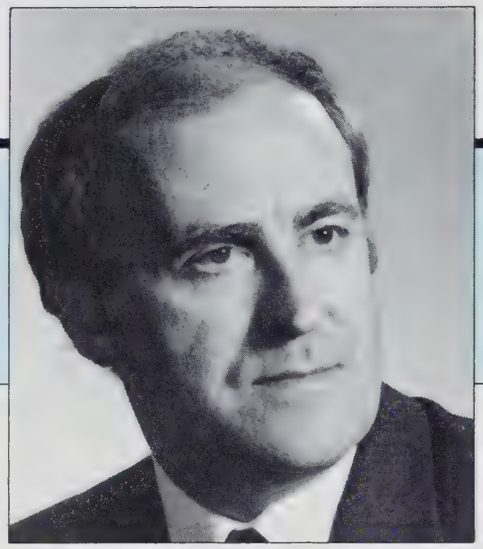
In a separate article in the same issue of

DR. ROBERT HICKS NAMED BC AMBASSADOR

Dr. Robert Hicks, a West Vancouver orthodontist and President of the Canadian Dental Association in 1983, was recently honoured at a reception for the opening of the New Vancouver Trade and Convention Centre.

Appointed "OFFICIAL AMBASSADOR" for the Province of British Columbia, Dr. Hicks is seen here receiving a plaque from the Minister of Economic Development, Hon. Grace McCarthy.

Dr. Hicks has been assigned the responsibility of hosting trade, tourism and convention functions at the Vancouver Trade and Convention Centre and is looking forward to the CDA Convention in Vancouver in 1989.



PRESIDENT'S COLUMN

Dr. John R. Robertson

FAREWELL – BUT NOT GOODBYE

It seems but a few short months ago in Halifax, Nova Scotia that I was installed as President of the Canadian Dental Association. Time has passed much too quickly and a great deal remains to be done. I'm sure many outgoing Presidents feel as I do right now – that just as we begin to respond to an issue, our time runs out. At the end of my term as your President, I find that there are still many areas of concern to your executive and management team that must be addressed and brought to satisfactory resolution.

Many of CDA's projects develop over a long period of time, and although one cannot expect some of them to conclude successfully within the term of one President, I do have confidence that a few of our current activities can be completed in the near future. Long term projects, such as the Dental Awareness Program, of course, will continue to bring dentistry to the attention of the Canadian public. However, as I leave office, I leave with a very comfortable feeling about the Canadian Dental Association and Canadian dentistry in general.

During my term, I had an opportunity to visit all of the provinces and was made to feel at home everywhere I visited, from the east coast to the west coast and everywhere in between. I wish to thank you all for showing me your unique brand of hospitality. The visits also gave me a greater understanding and appreciation of the particular problems of Canada's diverse regions and the concerns of our corporate bodies.

There appears to be a greater awareness of problems and a desire to work toward common goals across the country in Canadian dentistry today. I sincerely hope that this desire to work together continues long after my term as President is a distant memory. Canadian dentistry today is going through some exciting changes. Being involved with the changes in insurance matters, public awareness, manpower studies, self-assessment programs and the like is very exciting. I know that Canadian dentistry can and will rise to these and many more new challenges.

One of these challenges, as I stated in my inaugural address as President, is the provision of dental care for the elderly. I intend to continue to work toward the greater acquisition of dental care for Canada's seniors. It is not an easy task to initiate this program as there are many areas to explore, including education. But CDA is concerned. Education in geriatrics for students and dental graduates must be improved so that the practitioners of the future will be prepared to better understand and treat the special problems of older dental patients. It is my hope that our educators will work to that aim and that through cooperative efforts, a successful conclusion can be anticipated.

As this is my last column as your President, I find myself with some appreciation to express. The diligent work of the various councils and committees, particularly the work of the chairpersons, is to be commended. The concerned and dedicated work of the CDA staff at headquarters also receives my heartfelt commendation. The hard work of staff always makes the job of Management much easier.

My thanks also go out to Mr. Jardine Neilson, our Executive Director, who was always there when needed with good advice and wise counsel.

To the incoming President, Dr. Ron Markey, I offer my total support during your upcoming term. I look forward to working with you, the new management team and the new members of Executive Council.

In concluding, I have to say that it has been both an honor and a privilege to have served as your President and I thank you in Canadian dentistry for giving me this opportunity to contribute to the betterment of dentistry in some small way. Thank you all, once again, very much, and farewell.

"General Dentistry" two other researchers detailed some of the dental uses of antihistamines. Drs. Eric Fung and David Shaw of the University of Nebraska College of Dentistry point out that some of the usual indications for antihistamines to relieve allergic disorders or to quell nausea and vomiting, for example, are not applicable to dentistry since better agents are available for treatment of sudden patient reactions.

In contrast, some antihistamines are quite useful as sedative agents and can be used for relief of preoperative and presurgical anxiety. Pediatric dental patients respond well to the sedative action of these drugs. The local anesthetic properties of a diphenhydramine mouth rinse may also be used to provide temporary relief of oral pain associated with a localized inflammatory condition. The researchers point out that dentists should recognize that patients may respond differently to various antihistamines, and failure to respond to one drug does not preclude success with another of the group.

The most common side effect of antihistamines is generally considered to be drowsiness and the researchers say the response of a particular patient to a specific agent is difficult to predict unless the patient has had experience with the drug. Xerostomia may result from chronic use.

Concluding their review of the dental pharmacology of antihistamines, Fung and Shaw point out that patients must be informed that the sedative effect of antihistamines can be addictive when the drugs are taken in combination with other known central nervous system depressants and the dentist should consider their potential side effects before prescribing antihistamines.

CFDE LOTTERY WINNER ANNOUNCED

The Canadian Fund for Dental Education is pleased to announce that Dr. Ian Delorey and his wife Betty, of Sudbury, Ontario, are the grand winners of the "Dream Trip for Two" to the FDI Convention in Buenos Aires this October. Also included in their prize is a pre-convention tour to Rio de Janeiro. Dr. Delorey's winning ticket – #11200 – was drawn by Dr. Bernie Dolansky at the Ontario Dental Association annual convention on May 12, 1987.

Although the response to the lottery was not as great as had been hoped, CFDE did raise $17,000 for the Fund. The sincere appreciation of CFDE is extended to all those who bought tickets.

The CFDE Board of Trustees has authorized another lottery for 1988. Watch for the announcement of this year's prize. Next year, you may be as lucky as Ian and Betty Delorey!

Dr. Arthur Schwartz

DR. ARTHUR SCHWARTZ RECEIVES AWARD

Dr. Arthur Schwartz, Dean of the University of Manitoba's Faculty of Dentistry, was the recent recipient of the Dr. and Mrs. Ralph Campbell Outreach Award from the University.

The Campbell award was established to mark the end of Dr. Campbell's term as university President from 1976 to 1981, and is supported by a trust fund with gifts from friends and colleagues. The purpose of the Award is to pay tribute to university staff members who have been consistently active and effective in encouraging a positive interaction between the University of Manitoba and the community at large.

Dr. Schwartz's work through the Faculty of Dentistry to create a stronger bond between the Faculty and the profession and the Faculty and the community earned him the Award. One of the many programs which Dr. Schwartz initiated is the Mobile Dental Clinic in Manitoba. The mobile clinic takes dental care to people in Winnipeg who otherwise would not receive the dental care they require, such as those who are too infirm to travel to a dental office. He has also set up externship programs which provide dental care to a number of native communities in the province.

Dr. Schwartz is also responsible for establishing a continuing education program for dental practitioners and initiating refresher courses for dental professionals. He has also begun a course for foreign dentists to introduce them to dentistry in Canada.

This is the sixth year that the Campbell Award has been presented and each of this year's recipients were given $500 as part of the honour.

HEAD OF STATE TO OPEN FDI CONGRESS

President Raúl Alfonsín of Argentina is to open the 75th Annual World Dental Congress of the Fédération Dentaire Internationale (FDI) in Buenos Aires. At an audience granted to the congress organizing committee, the Head of State also agreed to be the Honorary President of the event which will take place from 24 to 30 October this year.

The President of the Argentine Republic will address FDI congress participants during a spectacular opening ceremony scheduled for Sunday 25 October in the Luna Park stadium. He will then be invited to witness the rollcall of nations represented.

Highlights of the Congress program, which is expected to attract several thousand dentists from around the world to Buenos Aires, also include:

- A special, two-hour course on AIDS and the dentist – Professor Jens Pindborg of Denmark, one of the world's leading experts in this field, will present an authoritative guide for the general practitioner. Admission will be free to all Congress participants;
- An extremely comprehensive scientific program – demand from specialist speakers to participate in the Congress has been such that several 'special lectures' have been scheduled, in addition to the three main themes: Occlusal function and treatment needs, Modern restorative dentistry, and The practical approach to periodontal treatment;
- A 'landmark' meeting of dental deans and educators – changes in dental education curricula will be discussed in the light of changing patterns of oral health and other factors. Dental educators are urged to attend this meeting which will be held on 27 October at the Sheraton Hotel;
- A social program which will include a tango evening, a display of riding skills and other aspects of Argentina's gaucho heritage, and a night at Buenos Aires' famous opera house, the Teatro Colón.

Details of the FDI's 75th Annual World Dental Congress are available from Congresos Internacionales, Moreno 584-9° Piso, (1091) Buenos Aires, Argentina; or from FDI Headquarters, 64 Wimpole Street, London W1M 8AL, United Kingdom; or from your FDI National Treasurer.

President Raúl Alfonsín of Argentina (left) greets FDI President Dr. Ariel Gomez. At their meeting, President Alfonsín agreed to open the FDI World Dental Congress in Buenos Aires and to be the Honorary President of the event which will take place from October 24 to 30. On the right of the photo is Dr. Roberto Lemme, Chairman of the Congress organizing committee.

DID YOU KNOW?

Dr. P. Ralph Crawford
Chairman, CDA Membership Committee

"Knowledge is of two kinds: we know a subject ourselves, or we know where we can find information about it."
(Samuel Johnson – 1709-1784)

DID YOU KNOW: The CDA almost lost one of its most important services for dentists and the public! In a 1980 report to the Board of Governors the following was noted . . . .

"it was suggested that the Council on Information Services has outlived its usefulness . . . a motion to disband the Council in light of modern communication changes was defeated."

DID YOU KNOW: That under adversity people of fortitude and wisdom will combine collective strengths to restructure and vitalize new concepts. At the same 1980 Board of Governors meeting new direction was adopted, and it has stood the test of time. . .

"The Council on Information Services shall consist of five members representative of the Atlantic Provinces, Quebec, Ontario, the Prairie Provinces and British Columbia.

It shall be the duty of the Council on Information Services. .

1. to develop guidelines for methods and programs to disseminate educational material to the public;
2. to develop guidelines for methods and programs to communicate effectively with members of the Association."

DID YOU KNOW: That by 1984 the Council on Information Services, chaired by Dr. Yosh Kamachi, guided by professional consultation from Manifest Communications, and administered by CDA staff Director Linda Teteruck, developed the single most important public relations strategy ever mounted in the history of CDA – the Dental Awareness Program. A new era in dental information had begun.

DID YOU KNOW:

- that in 1986, *303,000* pieces of public relations materials were sold for Dental Health Month distribution alone.
- last year there were *2,460* separate press notations relating to Dental Health – a new record!
- 1.4 *million* copies of the May 1987 issue of Chatelaine carried the "Third Dental Health Checkup" message to millions of Canadians. As had been the case in the two previous years, Colgate-Palmolive exclusively and totally financed this supplement at a cost of $325,000.
- to date, 281,000 copies of the very popular and informative "What Every Adult should know about Dental Health" – the CDA/Oral B brochure have been sold for distribution.
- CDA's Council on Information Services produces 15 different pamphlets covering a variety of dental subjects – over three quarters of a million are distributed every year. Check your CDA Journal for a listing and order form.
- CDA's overall Information Services Budget, including Dental Awareness and Dental Health Month is approximately $360,550. a year. At $36.00 per member/per year, this media responsibility is a bargain!

DID YOU KNOW? *QUIZ* A NEW FEATURE!

Beginning this month, DID YOU KNOW will have a Quiz to test your memory and knowledge of an item that has appeared in a previous issue.

THE PRIZE: For the first FIVE correct answers drawn at random, 100 FREE CDA PAMPHLETS* of your choice can be won.

** This month's question: "What was the name of the dentist who formulated the set of rules that established the game of Lacrosse, Canada's National Sport?"

Send your answer to **DID YOU KNOW?** c/o The Journal of the CDA, 1815 Alta Vista Drive, Ottawa, Ontario, K1G 3Y6

(and Good Luck!)

* *Excluding* the pamphlet "Consumers Guide to Dental Care"

QUEBEC COUPLE AND FAMILY IMMERSED IN DENTISTRY

Dr. Marc Trepanier, a dentist in the town of Farnham, Québec, about 40 miles southeast of Montréal, is totally immersed in a dental environment.

There have been 13 dentists in he and his wife Ghislaine's families.

A graduate of the University of Montréal, Dr. Trepanier a governor of l'Ordre des dentistes du Québec has operated a general practice for 36 years and has been a member of the Canadian Dental Association for the same period of time.

Father was dentist

Dr. Trepanier's father, Olivier Trepanier, enjoyed a lengthy career in a general practice in Farnham, and was a CDA member for 60 years. When Dr. Marc Trepanier graduated, he joined his father. Eventually Dr. Marc's son also joined them, and all three generations practised together for about four years.

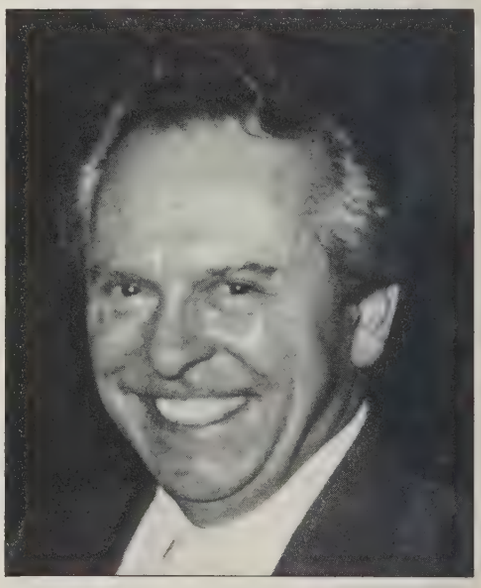
Mrs. Marc Trepanier's uncle, Dr. Eduard Gervais has maintained a practice for a number of years in Joliette, Québec, and his son also followed in the profession.

Seven cousins of the couple have practised, or continue to practice dentistry.

Bernard Trepanier of Valleyfield, Québec, maintains a practice there with Dr. Marc Y. Trepanier, both cousins of Dr. Marc Trepanier of Farnham, Québec.

Strong influence

Dr. Marc Trepanier's daughter Sylvie, studying for an MA at the University of Ottawa is not planning a career in dentistry. However, the effects of the dental environment are obvious. She is presenting her thesis, for her degree in Political Science, on the subject of "Dental Health in Québec."



Dr. Marc Trepanier seen enjoying events at the CDA/ODQ Conjoint Convention in Montréal in May.

Dr. William R. Thompson

DR. WILLIAM R. THOMPSON TO RECEIVE HIGHEST CDA HONOR

Dr. William R. Thompson, who served as President of the Canadian Dental Association in 1982-83, has been named to receive the CDA's highest honor, Honorary Membership. He has enjoyed a distinguished military career in dentistry and continues to serve as a valued senior official in the Fédération Dentaire Internationale.

He will receive the award at a September 11 luncheon, during the Annual Meeting of the CDA Board of Governors in Ottawa.

University of Toronto graduate

Dr. Thompson, who was born in Campbellford, Ontario, was graduated with his DDS from the University of Toronto in 1949. He received his Oral Surgery certification from the same university in 1969.

He became involved in dentistry in the military services at a number of Canadian and overseas bases as a general practitioner, oral surgery specialist, clinical instructor and dental administrator.

In 1961, he received advanced dentistry training at the famed Walter Reed Army Medical Centre and, from that date until 1965, was an instructor at the Canadian Forces Dental Services School, Canadian Forces Base Borden, Ontario.

From 1975 to 1982, Dr. Thompson served as Director-General, Dental Services, Canadian Forces and attained the rank of Brigadier-General.

In the same period, Dr. Thompson served as a member of CDA's Board of Governors.

His international recognition began in 1973, when he was named a Fellow of the International College of Dentists and received a royal distinction as an Honorary Dental Surgeon to the Queen.

From 1975 to 1980, he served as Chairman of the Defence Forces Dental Services Commission of the Fédération Dentaire Internationale.

Many honors

In the 1978-79 period, Dr. Thompson received the Order of St. John of Jerusalem from the St. John Ambulance organization, the Pierre Fauchard Medal from the National Order of Dentists of France and became a Fellow of the Royal College of Dentists of Canada.

In 1980, he was named to the Executive Council of the CDA, served as Executive Liaison to the Council on Education, and became CDA President in 1982.

His leadership skills and wide experience had attracted attention at the international level, and from 1983-85 he served as a member of the Executive Council of the FDI.

Dr. Thompson was named Commandant, Canadian Forces Dental Services, in 1985.

In addition to membership in the CDA and the Ontario Dental Association, he is also a member of the Royal College of Dental Surgeons of Ontario and the Canadian and Ontario Societies of Oral and Maxillofacial Surgery.

Dr. Thompson and his wife Doris live near Trenton, Ontario.

His hobbies are jogging, boating, cross-country skiing and gardening.

AD LIB

by Cuspid

PUBLISH *AND* PERISH?

There are today more than 20,000 biomedical journals . . . which is roughly twice as many as there were 15 years ago, and five times as many as there were 30 years ago. Here in Canada, the number of medical journals alone has gone from under 30 to over 40 in the past two years.

Has all of this growth come about as a result of some sort of imperative among those in the health professions to share with their peers experience or opinion? Or is it that academic reputation – and tenure – call for publication? Is it reasonable to assume that this tremendous increase in the quantity of information has brought with it a concomitant increase in quality?

Perhaps ultimately, as one wag put it, we shall be able to read more and more about less and less – until we can read everything about nothing. The proliferation of specialty journals may have come about in part as a result of stupendous growth in knowledge. Practitioners in all kinds of professions – but perhaps particularly the health professions – feel increasing pressure from this knowledge . . . a sense that it is rolling along faster than they can walk, rather like the incoming tides in the Bay of Fundy.

At the same time, as biomedical sciences become increasingly complex, and the knowledge and techniques expand at a frightening pace, it becomes ever more vital that dentists and other health care workers share their knowledge and experience with their colleagues. 'What I've Learned' or 'How I Do It' are much too important to be kept to yourself. Even so, if what you're doing isn't a 'breakthrough', a 'dramatic advance' or a 'revolutionary new discovery' – don't give up. Journals cannot publish the doings of a Banting or a Fleming in every issue. Scientific communication would be a pretty breathless business if they could.

Most journals are interested in the practical, helpful presentation of down-to-earth information to busy people. And don't worry too much about that old Introduction, Methodology, Results, Conclusions bit; it can make for a stilted approach. Also, don't feel that, in order to appear learned, you must write: "this author is of the opinion that. . ." when you simply mean: "I think."

The first question you have to ask yourself in deciding whether to write and to submit your manuscript to the editor of a journal is: do you have anything new or different to say? If you do, then by all means go ahead. But a word of warning: keep what you have to say simple and straightforward. You might well be writing for professional recognition or for tenure, but that doesn't mean that you have to engage in an authoritarian or ponderous style. For example, a statement that something "is of wide-ranging theoretical and practical importance" may simply be taken to mean that you, the author, find it interesting.

I don't know why this should be so, but there is a widespread belief that writing is easy and that it comes naturally. There is a story told about the neurosurgeon who said to a writer "when I retire, I'm going to take up writing'. The writer replied: "That's interesting; when I retire I'm going to take up neurosurgery". Even for those who earn their living as writers, it's seldom easy. But plenty of help is at hand. The prospective writer should be armed with dictionaries, a thesaurus . . . and perhaps Fowler's *Modern English Usage*. There are other books on style that may also prove to be useful.

In sum, if you would write, first have something to say; second say it simply and directly as a courtesy to your reader . . . and third, use the printed and human resources at your disposal. Writers and editors will always be happy to give you their advice.

DR. ALAIN VAILLANCOURT BECOMES U OF M VICE-RECTOR

Dr. Alain Vaillancourt, who has served as Dean of the Faculty of Dentistry, University of Montréal for eight years, has been named Vice Rector of that University.

He leaves the Faculty of Dentistry for what has been described by a faculty colleague as a "big job" – Vice Rector for Human Resources.

Dr. Pierre Desautels, Professor, Dental Materials and Assistant Dean (Curriculum) told the Journal that Dr. Vaillancourt's departure from the dental faculty "is a big loss for us."

Dr. Forest – Interim Dean

Dr. Denis Forest, Associate Dean and Head of the Department of Radiology, will serve as Interim Dean for a few months. A search committee has been named and is actively seeking a successor to Dr. Vaillancourt.

Dr. Desautels, who is also Scientific Editor (French language articles) for this Journal, believes Dr. Vaillancourt will be a success in his new role. "He showed his talents for administration in the difficult years – the early 1980's. He's a hard worker, he knows where he's going. He's a leader", Dr. Desautels said.

Dr. Vaillancourt will be dealing in such areas as salaries, negotiations and personnel matters.

Dr. Alain Vaillancourt

Dr. Denis Forest

CDA RETIREMENT SAVINGS PLAN

Unit values: (Funds are valued weekly)

Fund	Unit values as at July 31, 1987	June 26, 1987
Fixed Income Fund	56.16956	56.94722
Common Stock Fund	154.57246	147.95977
Money Market Fund	37.88471	37.69232
Balanced Fund	25.71156	25.27252

Interest rates:

Guaranteed Fund Term	*Interest rates as at July 31, 1987	June 26, 1987
1 yr	8.75%	8.70%
2 yr	9.10%	9.00%
3 yr	9.50%	9.30%
4 yr	9.75%	9.60%
5 yr	10.10%	10.00%

(*rates subject to change without notice.)

Total Assets (Market value) of the Plan as of:

July 31, 1987	June 26, 1987
$89,285,022	$86,673,141

For further information:

Write: Canadian Dental Service Plans Inc.
Retirement Services Department
Suite 600, 2 Lansing Square
Willowdale, Ontario M2J 4Z3

or phone, toll-free:
Western and Atlantic Canada and Ontario Area Code 807 only 1-800-268-5418
Quebec and Ontario, (except Area Code 807) 1-800-268-3411
Metro Toronto Area . . . 497-7117

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DENTAL AWARENESS PROGRAM UPDATE

PATIENT INFORMATION SYSTEM

The Time Has Come. . .

The Council On Information Services, responsible for the CDA's pamphlet program, has, after careful deliberation, determined that the time has come to rethink, revamp and re-orient the patient information materials.

During the past few years, new resources have come on stream, like the effective fact sheet series and the popular Dental Health Checkup, and receptivity to new pamphlet materials has been demonstrated by the Oral-B brochure, *What Every Adult Should Know About Dental Health*. There has also been a significant increase in demand for existing pamphlets.

These positive developments inspire CDA to take a systematic look at what we have, how it's used and, how it can be made more useful for the professions' patient information needs.

The time has come for something new, improved and useful. Thus, the CDA, through the *Dental Awareness Program*, is addressing this area with a view to creating a *Patient Information System* for use in the dental office.

All new materials will be produced with the *Good For Life* theme to reinforce the campaign's message. They will be developed to be consistent with the program's goal of providing the profession with the tools that it requires to effectively communicate to patients and promote dental health.

In order to come up with a workable and viable system – first, we are asking a number of simple questions: What are the subjects and dental health issues that have to be covered? What is the appropriate format (poster, pamphlet, fact sheet) for each? And, how does the dental office really use the materials?

Second, we are undertaking a comprehensive review of existing materials; other professional organizations' information systems; interviewing dentists and other dental health professionals and, taking a close look at information flow in the office environment.

This Fall, final details for the new *Patient Information System* will be in place. So, you can look forward to better materials in the years ahead.

What A Difference A Little Care Makes

The 1986 award-winning program (First Prize – Health Care Public Relations Association – Communications Programs), *What A Difference A Little Care Makes*, was run again this year in Toronto. Launched at the end of June during *Seniors Dental Health Week*, the program featured terrific displays showing proper dental care for seniors and provided dental aids which made flossing and brushing easier.

This year the program was expanded. It was built on the successful foundation of the existing fact sheets, poster, dental referral system and seniors information line by taking the message to the community in the form of a newly created personal presentation package, the Speaker's *Kit*. The *Kit* provides health professionals with the general outline of a speech and an accompanying slide show.

By combining the efforts of the CDA, the City of Toronto, and many other dental and community groups, the program has successfully increased awareness and visibility of the seniors' dental health issue; provided relevant information on dental health to seniors and those who care for seniors; and, helped to motivate healthy dental practices among seniors.

What A Difference A Little Care Makes is making a big difference in communicating proper dental care to seniors. Be sure to look for the next *DAP Report* which will discuss dealing with and motivating seniors to keep their teeth *Good For Life*.

FOCUS ONTARIO SURVEY

Advertising Pays Off

Following the successful launch of the *Consumer's Guide to Dental Care*, the ODA commissioned *Environics Research Group* to do a telephone survey to measure the effects of the campaign on the consumer's awareness of dental health issues in Ontario.

The results were encouraging. Approximately 30 per cent of respondents said that they were aware of dental health advertising. This says Donna Dasko of *Environics* "is quite good considering that the campaign run was print, not television".

It's more evidence that the dental care consumer is being positively affected by our efforts.

Briefly

Dr. Izchak Barzilay, a 1983 graduate of the University of Toronto Faculty of Dentistry recently received three prestigious awards for research from the Eastman Dental Center in New York.

In January this year, Dr. Barzilay was the recipient of the 1986-87 novice research award from the The International Association for Dental Research and the The American Association for Dental Research, (IADR/AADR) in the Prosthodontic Research Group. Dr. Barzilay was honoured for his paper entitled *Mechanical and chemical retention of laboratory cured composite resins*.

Dr. Barzilay also received the Stanley Tylman Competition Award sponsored by the American Academy of Crown and Bridge Prosthodontics and the 1987 Michael G. Buonocore award, sponsored by the Rochester Section of the AADR.

The Academy of General Dentistry has peeked into the future and suggests that in the 21st century, a computer-programmed "dentabot" robot could take over some of the duties now handled by a dental assistant in the dental office.

The "dentabot", the AGD spokesman explained, would respond to certain word patterns and would assist the dentist in minor procedures.

Most industrial robots now in service have a price tag in the neighborhood of $750,000 (United States dollars), but a science magazine has reported that a new model RTX "mechanical helper" will cost only $7,500. A further simplification is that it can be programmed by a personal computer in your own home.

The Canadian Society of Laboratory Technologists (CSLT) recently honoured one of CDA's senior staff members with a special award.

Mr. Brian Henderson, CDA's Director of Accreditation, and formerly the Director of Accreditation at the Canadian Medical Association received the award "for enhancing the credibility of conjoint accreditation" particularly through the CMA.

Mr. Henderson was one of 50 people to be given the special awards, established in honour of the CSLT's 50th anniversary. The purpose of the award was to "honour some of those who have contributed significantly to the growth and development of the Society but have never received any formal recognition."

Mr. Henderson has been CDA's Director of Accreditation since December 1983.

Dr. E.A. Slack

Dr. E.A. (Ted) Slack of Medicine Hat, Alberta, recently marked a very significant anniversary in dental practice – his 50th!

A graduate of the University of Alberta's Faculty of Dentistry in 1937, he set up a practice the same year.

When World War II broke out, Dr. Slack joined the Canadian Dental Corps, (in 1939) and spent four and a half years in military service. Two and a half of those years were in service overseas.

After 50 years he still enjoys his practice, working mornings only and travelling South for the winter.

He has always been interested in sports and his favorite hobby is Arabian horses. He has raised many prize winners and rides them himself.

He married Frances J. Haven in 1938 and they have two children and six grandchildren.

Dr. Slack is much involved in community organizations – his church, the Kiwanis Club, Masonic Order and as a Charter member of the Medicine Hat Stampede Company.

Members of the Canadian Dental Association are now eligible for the corporate hotel rate at the Ritz-Carlton Hotel in Montreal.

Members making reservations at the Ritz-Carlton will be charged a rate of $135 per night single or double occupancy, effective immediately until April 30, 1988.

Members making a reservation should mention to the Hotel that CDA has the corporate rate.

The Ritz-Carlton is located at 1228 Sherbrooke West, Montreal, Quebec.

The Canadian Society of Public Health Dentists recently elected their 1987/88 executive.

The new President is Dr. H. Jack Hann who is associate professor at the University of British Columbia Faculty of Dentistry. The President-Elect is Dr. Benoit LaFontaine the Senior Dental Consultant for the government of Québec. The Past President is Dr. Roger Ellis who is with the Department of Dental Health Care at the University of Alberta and the Secretary-Treasurer for 1987-88 is Dr. Neil A. Farrell who is Director of Dental Public Health in London, Ontario.

Dr. Rae Munroe of Stratford, Ontario, has been elected President of the Ontario Society of Orthodontists for the 1986-87 session.

Other officers elected are: Dr. Paul Levin, of Mississauga, Ontario, as Vice-President, and Dr. Alan Crawford, Sault Ste. Marie, Ontario, as secretary-treasurer. Dr. Martin Slater of Downsview, Ont., is the immediate Past-President.

Dr. Ralph I. Brooke, currently Dean of Dentistry at the University of Western Ontario, has recently been appointed Vice-Provost Health Sciences at Western.

The appointment was effective July 1, 1987. Dr. Brooke will continue to serve as Dean of Dentistry while he carries out his duties as Vice-Provost for a three year term. The Vice-Provost of Health Sciences coordinates and represents the University's Health Science Faculties both on and off campus.

Dr. Brooke was a graduate in Dentistry in 1957 from the University of Leeds. He attained his degree from the Faculty of Medicine at the same university in 1962. He came to Western in 1972 and has been Dean at that University's Faculty of Dentistry since 1982.

Dr. Wayne Raborn, a University of Alberta dental surgeon, and Dr. Jim Beauchene, a plastic surgeon at the same institution are currently conducting tests on a new "surgical glue" which stops bleeding instantly by sealing the tissue.

The "glue" called Tisseal, is made from pooled human fibrinogen. It is both adhesive and hemostatic and can be sprayed right onto the wound or squeezed out of a syringe. Since the material does stop bleeding instantly, if trials are successful, the use of the material in dental surgery could make

such surgery a great deal easier for hemophiliacs, or patients on anti-coagulants. Currently, patients on anti-coagulant medication must stop the medication several days before going to have dental surgery, and must stay in hospital for observation on the days that they are off the medication. Dr. Raborn has found that Tisseal will successfully stop bleeding and promote healing in patients still on anticoagulants and he has been able to treat them as normal out-patients.

Clinical trials of the material are being conducted. Dr. Beauchene, a plastic surgeon sees the material as having two distinct advantages in skin grafting. First, when applied to the site the graft was taken from, it will reduce blood loss, and when used to "glue" the graft in place, the Tisseal is both fast and painless.

The material has been in use in Europe for several years, and has been accepted for trial in Canada on the basis of the European experience.

The Canadian Dietetic Association recently released an official position paper on diet and cancer prevention, based on current evidence.

In the paper, the Association recommended the following dietary practices:

1. Individuals should consume generous amounts of whole grain foods, legumes, vegetables and fruits daily.
2. Only moderate amounts of fats and fatty foods should be consumed.
3. The over consumption of total energy should be avoided.
4. Salty foods, smoked foods and alcohol, if consumed, should be consumed in moderation.

The position paper further recommends that dieticians and other health professionals:

1. advise the public of these recommendations.
2. Inform the public how to incorporate these dietary recommendations into a healthy eating style;
3. Acknowledge, in education programs, that as new information becomes available there may be refinements and modifications in these recommendations;
4. Encourage and cooperate with the food industry in their efforts to provide foods and product information which facilitate meeting these recommendations;
5. Undertake, encourage and support further research as a means of preventing cancer.

Copies of the complete position paper are available from The Canadian Dietetic Association, 480 University Ave., Suite 604, Toronto, Ont. M5G 1V2, phone 416-596-0857.

Researchers in France have discovered a second virus that leads to AIDS in West African and European AIDS patients. The discovery was reported in the Wall Street Journal. The new strain is called human immunodeficiency virus-two (HIV-2) and it has been shown by genetic analysis to be nearly 60 per cent different from HIV-1. This means that the current blood tests to determine the presence of HIV-1 will pick up only about half of those infected with the newly-identified virus.

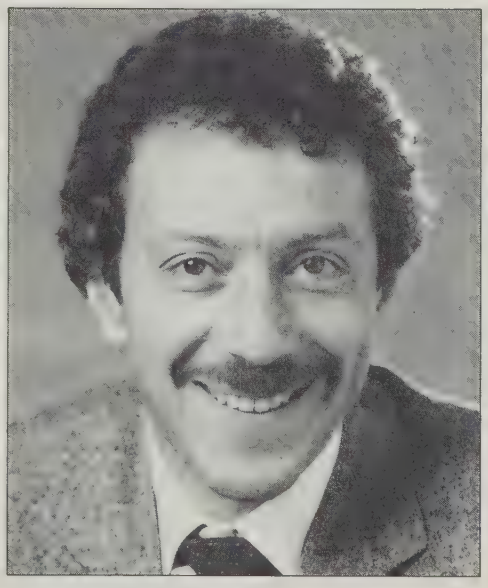
Most of the cases identified with HIV-2 virus were in West Africa, but a few patients in Europe have also been found to have it. Pasteur Diagnostics, an institution related to the Pasteur Institute in Paris, France, is now developing a blood test to hopefully detect both HIV-1 and HIV-2 antigens.

The United States Centres for Disease Control is also involved in a study, in collaboration with a Seattle, Washington, company, to screen blood serum for HIV-2, in an effort to determine whether the new virus is present in the United States.

Dr. W.C. (Fred) Weinstein, a Vancouver endodontist, was recently installed as a Regent of the Alpha Omega Fraternity in Washington, B.C.

A Regent is a national officer responsible for a specific geographic area. Dr. Weinstein's area of responsibility will include Oregon, Washington, British Columbia and Alberta.

The Alpha Omega Fraternity is an international dental fraternity, the members of which are selected on the basis of scholarship, character, leadership and personality. Alpha Omega is currently organized into more than 125 undergraduate and alumni chapters. The Fraternity is recognized as representing more than 18,000 professional men and women within dentistry, dental education and research.



Dr. W.C. (Fred) Weinstein

Dr. Ernest S. Alder of North Battleford, Saskatchewan, has been honored with a Fellowship of the International College of Cranio-Mandibular Orthopedics at its most recent convocation in Miami Beach, Florida.

Dr. Alder maintains a private dental practice and is employed part-time by the Saskatchewan Health Dental Plan for children. He is a member of the first class of dentists and physicians in the United States and Canada to receive this Fellowship award from the College. The convocation preceded a general session covering the latest findings in measurement of the biophysics and physiology of the head and neck.

A graduate (DDS) of the University of Nebraska, Dr. Alder is a member of the College of Dental Surgeons of Saskatchewan, the Calgary and District Dental Society and the American Association for Functional Orthodontics.

Donald C. Yu, BS, DMD, CAGS, MScD, MRCD(C), an endodontist who has practised in Edmonton, Alberta, since 1981, recently received the Academy of General Dentistry's prestigious Fellowship Award during a special ceremony at the AGD's Annual Meeting in Philadelphia, July 11-16.

To earn the Fellowship Award, AGD members must complete more than 500 hours of continuing education within 10 years, and pass a Fellowship examination.

Dr. Yu graduated from the University of Pennsylvania in 1979 and then pursued postgraduate specialty studies at Boston University Goldman School of Graduate Dentistry.

The recipient practises in Edmonton with his two brothers, Dr. Henry C. Yu, an endodontist and AGD Fellow, and Dr. Charles C. Yu, a periodontist. Dr. Don Yu also teaches at the University of Alberta's Faculty of Dentistry.

Dr. Donald C. Yu

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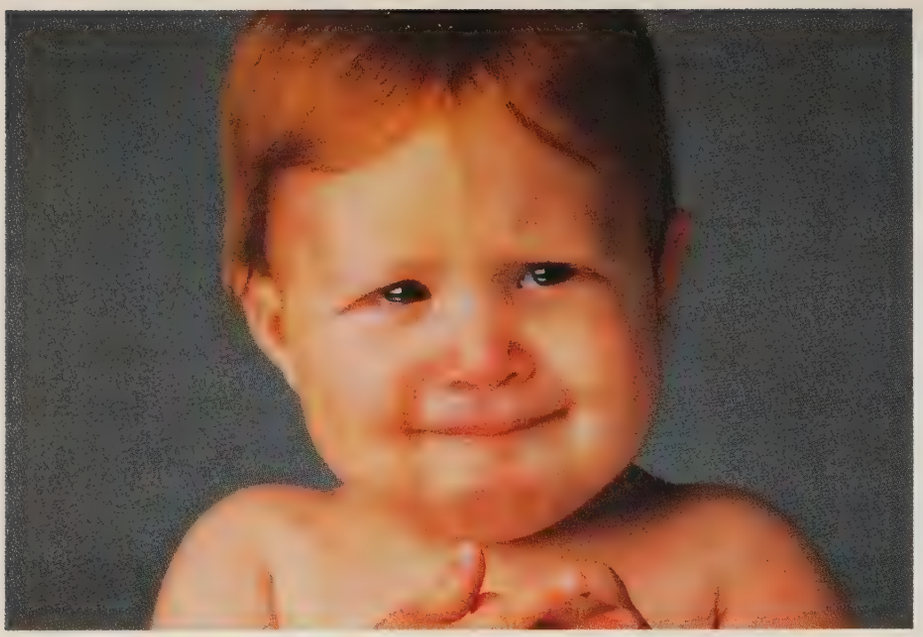

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Resource Centre de documentation

SURGICAL GLOVES

LES GANTS DE CHIRURGIEN

1. Allard, W.F. *The significance of rubber gloves: reduction of transmission of infectious diseases in dental practice*. TIC, v. 43, no. 8, August 1984, pp. 6-7 and 11.
2. Brantley, C.F. and others. *The effects of gloves on psychomotor skills acquisition among dental students*. Journal of Dental Education, v. 50, no. 10, October 1986, pp. 611-613.
3. Epstein, J.B., Buchner, B.K. and Bouchard, S. *Hepatitis B and Canadian dental professionals*. Journal of the Canadian Dental Association, v. 50, no. 7, July 1984, pp. 555-559.
4. Gobetti, J.P., Cerminaro, M. and Shipman, C., Jr. *Hand asepsis: the efficacy of different soaps in the removal of bacteria from sterile, gloved hands*. Journal of the American Dental Association, v. 113, no. 2, August 1986, pp. 291-292.
5. *Infection control in the dental office: a realistic approach*. Journal of the American Dental Association, v. 112, no. 4, April 1986, pp. 458-468.
6. Mitchell, R. and others. *The use of operating gloves in dental practice*. British Dental Journal, v. 154, no. 11, June 11, 1983, pp. 372-374.
7. Mulick, J.F. *Upgrading sterilization in the orthodontic practice*. American Journal of Orthodontics, v. 89, no. 4, April 1986, pp. 346-351.
8. Nicholas, N.K. *The use of surgical rubber gloves by school dental nurses*. New Zealand Dental Journal, v. 83, no. 371, January 1987, pp. 2-4.
9. Reingold, A.L., Kane, M.A. and Hightower, A.W. *Disinfection procedures and infection control in the outpatient oral surgery practice*. Journal of Oral and Maxillofacial Surgery, v. 42, no. 9, September 1984, pp. 568-572.
10. Schiff, E.R. and others. *Veterans Administration cooperative study on hepatitis and dentistry*. Journal of the American Dental Association, v. 113, no. 3, September 1986, pp. 390-396.
11. Silberman, S.L., Barnett, J.M. and Alexander, W.N. *Bacteriological assessment of non-sterile gloves used in dental practice: a pilot study*. Mississippi Dental Association Journal, v. 42, no. 4, Winter 1986, pp. 8-9.
12. Solovan, D.F. and others. *Evaluation of oral procedures performed with gloves: a pilot study*. Dental Hygiene, v. 58, no. 3, March 1984, pp. 122-124.
13. Wilson, M.P. and others. *Gloved versus ungloved dental hygiene clinicians. A comparison of tactile discrimination*. Dental Hygiene, v. 60, no. 7, July 1986, pp. 310-315.
14. Yoder, K.S. *Patients' attitudes toward the routine use of surgical gloves in a dental office*. Journal of the Indiana Dental Association, v. 64, no. 6, November-December 1985, pp. 25-28.

One copy of the above articles is available at no charge from the library to all CDA members. Non-members will be charged $5.00. This bibliography was generated with the help of MEDLARS, a computerized information retrieval system for the Health Sciences field.

La bibliothèque de l'ADC offre gratuitement à ses membres et pour $5.00 aux non membres une copie des articles au-dessus. Cette bibliographie a été préparée avec l'aide de MEDLARS, un système informatisé de recherche bibliographiques pour les sciences de la santé.

"HISTORY OF DENTISTRY IN ALBERTA 1880-1980"

This notice is to advise that the above-captioned book authored by Dr. Hector R. MacLean, Dean Emeritus, Faculty of Dentistry, University of Alberta, and a Past-President of the Canadian Dental Association, has just been received from the printer.

While the supply lasts copies can be purchased by any interested party at a price of $25.00 each by forwarding your request for a copy(ies) accompanied by a cheque for the appropriate amount made out in favour of the Alberta Dental Association to:

Dr. B.P. Martinello, Executive Director, Registrar.
Alberta Dental Association, #101, 8230–105 Street
Edmonton, Alberta T6E 5H9

Book Reviews

FRACTURES OF THE TEETH PREVENTION AND TREATMENT OF THE VITAL AND NON-VITAL PULP

Enrique Basrani
translated and adapted by
Harold M. Rappaport

Lea & Febiger Philadelphia
$46.50 Illustrated 156 pages

This book is dedicated to the diagnosis, prognosis and treatment of the traumatized tooth.

With an increased desire on the part of the public to retain their dentition, this text is a valuable contribution towards updating information on a most complex topic.

The author classifies the various kinds of fractures, then gives the prognosis and treatment in the form of case reports. For each type of injury a plan or method of treatment, be it immediate, temporary or permanent, is presented.

The book is entirely clinical which may well appeal to most practitioners. Specifically, the author covers the various classifications of fractures which have been proposed in the literature. He then covers the methods of diagnosis of the pulp and divides these into subjective, objective symptoms and differential diagnosis and methods of treatment. Chapters are devoted to fractures of enamel, enamel and dentin, and the combination of enamel, dentin and pulp exposure.

Root and crown-root fractures are well covered in two chapters. The treatment of injured teeth with necrotic pulps and incomplete apical development is also discussed. Included is a review of the types of calcium hydroxide available as well as its potential for apical repair.

The final chapter of the book covers dentin and pulp protectors. It reviews varnishes, calcium hydroxide compounds and cements and serves as a good review for the practitioner.

The book is well illustrated and should serve as a good reference text on the subject of fractures of the teeth.

This book was reviewed by
Dr. W.H. Pulver,
University of Toronto

DELEGATE AND MOTIVATE — THE DOCTOR'S MANAGEMENT SUCCESS MANUAL

Procom Inc.
Professional Communications Inc.
Madison, Wisconsin
$29.95 (US)
111 pages

The focus of this book is on two important management areas: the delegation of tasks and responsibility in order to free up the dentist's time, and motivation of staff members to continue their enthusiasm and productivity. A lot of "how to" and "easy to implement" ideas are included on the topics of staff recruitment, interviewing, hiring, salary and performance reviews, morale building, team building, staff interpersonal communications and practice building techniques.

The recruitment, interviewing and hiring section, which covers 22 pages is a good overview. Delegation techniques and follow-up are covered throughout the text. Some of the areas mentioned would be appropriately included in the dentist's personal office policy manual, especially the areas of staffing and delegation of responsibility.

The management by objectives section includes: goal setting, the staff participation, performance reviews and evaluation of team results.

The employee performance appraisal information and job description preparation is not complete. The information given however, should assist the reader in these important management areas. Advice is given regarding termination and exit interviews. A list of 20 employee "morale boosting" suggestions is included in this report. Two pages are devoted to effective staff meetings. Employee motivation is well covered, heavily centering on the importance of non-monetary, and intangibles, the importance of which outweigh, in many employees' minds, salary. Six pages are devoted to the method and importance of keeping staff lines of communication freely open. In 12 pages the authors address the topic of office security; both internal and external; financial and non-financial. Ten per cent of the book is devoted to partnerships and associateships. Some of this latter information is more valid in the United States than in Canada but is generally useful. The areas of malpractice, appointment book control, broken appointments, credit cards in dentistry and telephone collection techniques are briefly discussed. A bibliography for further reading is included.

In the opinion of this reviewer, this book would be a worthwhile addition to the dentist's/manager's reference library.

This book was reviewed by
Dr. Robert A. Brandon
Assistant Professor
Division of Community Dentistry
University of Western Ontario

MINIGRAPH OCCLUSION ANALYSIS

Tradowsky, M.,
Doukoudakis, A.A.,
Peck, C.W.,
Kubicek, W.F.

Ishiyaku EuroAmerica, Inc. 1984
114 pages
$22.50 US
182 B & W illustrations

This booklet is a step-by-step instruction manual which explains the use and philosophy of a device called "Minigraph" in the setting of a dental articulator (in this case, a Denar D5A). It contains 114 pages bound with a plastic spiral and printed with large characters on a glare-free paper of excellent quality. The presentation of the technique is precise and thoroughly explained by the use of 182 B & W photographs and diagrams. The last 30 pages review the development of the Minigraph and follows with the occlusal analysis of the mounted stone models.

The Minigraph looks more or less like the *anterior part* of a typical pantograph with two anterior tables and styli attached to intraoral clutches making contact with a central bearing screw (CBS). The upper stylus bar carries two "transfer nuts" to register the vertical translation of the jaw during lateral excursions. A "transfer vise" is utilized to lock the styli in contact with the tables and self-polymerizing acrylic is placed to fuse the clutches together. Following this, the setting of the articulator is started with the intercondylar distance set from an earlier

face bow transfer and the progressive side shift (Bennett Angle) set arbitrarily at 7.5 degrees. From then on, the Minigraph is used to reset the intercondylar distance, the progressive side shift and to set the horizontal condylar inclination, the immediate side shift, and the angulation of the rear wall of the fossa.

This lengthy explanation is necessary because, although this device might look like half a pantograph, it is not used in the same fashion. (Readers are reminded that anterior pantographic tracings are used *mainly* to set the intercondylar distance). Indeed, to understand the Minigraph, one would have to read earlier articles by the main author (Tradowsky, Jour. Pros. Dent. 1981, 1982) where he dismissed the generally accepted concept of the mandible acting like a Class III lever in favor of a "physiologic equilibrium point" for the mandible which is obtained when the CBS is placed at the level of the mesial of the second premolar. At this point, it becomes a question of philosophy and of "school of thought". In this reviewer's opinion, the whole Minigraph technique seems a bit lengthy considering the final result. Even if the central bearing screw position makes such a difference, one could have doubts as to the validity of all these settings, considering that they are all made from tiny (8 mm) tracings and transfer nuts adjustments recorded extraorally at a fairly great distance from the condyle area.

In brief, a well written manual which could be of use for those who plan to buy or have already bought a Minigraph.

This book was reviewed by
Dr. Pierre Lamontagne
McGill University, Montreal
Head, Section of Fixed Prosthodontics

METAL CERAMICS

Makoto Yamamoto

Quintessence Pub. Co.
1985
Tokyo, Japan
523 pages

The fabrication of porcelain-to-metal fixed prostheses requires a very delicate technique. These metal ceramic units though, provide excellent functional and esthetic performance when the materials, construction, and placement are perfect. It is the author's opinion that there is a lack of standards for bonding mechanisms, selection of indications, abutment preparations, impressions, and shade matching etc., and that many products are employed with only vague descriptions of their properties and uses. This book defines the causes of problems in metal ceramic fabrication and proposes solutions.

The first (and probably best) chapter suggests that success depends upon factors affecting the metal coping strengths, strength of the metal ceramic bond, or the differences in thermal expansion between porcelain and metal. The analysis discusses the properties of the materials and the factors which influence respective strengths, establishes a list of requirements to avoid failures, and describes step-by-step techniques to satisfy the requirements and minimize the negative factors.

The second chapter discusses marginal fit. The author presumes here only to solve technical problems, not problems inherited from the dentist (eg poor impression or design). He indicates that discrepancies in marginal fit occur mostly from distortion during casting, enumerates the reasons, and discusses techniques to avoid them.

Another good chapter concerns ceramo-metal esthetics. It includes a discussion of the principles of colour, a lengthy and detailed description of techniques for building esthetic porcelains, and an outline of techniques for getting the best morphology, surface characteristics, and occlusion.

Other chapters describe techniques to avoid; how condensation affects strength, shade and firing shrinkage; and how to eliminate the kinds of porcelain discolouration that can occur at firing and post-soldering. The final chapter is a slight step in a different direction, possibly the author's current pet project, outlining a technique for building predictable porcelain margins.

This book is not a problem solver, but more importantly, is a problem avoider. It is heavy on technique, which is described precisely and in a step-by-step manner. Excellent and numerous graphics accompany the text. The author has good knowledge of the literature, and in many instances conducts and describes his own experiments to test various principles.

On the down side, there is at times some lack of organization of presentation, and some minor discrepancies in translation leading to awkward descriptions. The information is aimed mostly at the dental lab and every ceramo-metal technician should read it. But so should every dentist, so that he knows what proper standard of preparation he must supply his lab with, and then what kind of results he should expect from them. In conclusion this book provides both dentist and technician with an understanding of what breeds successful metal ceramics, and is highly recommended.

This book was reviewed by
Dr. Don A. Friedlander
a dentist in private practice in
Ottawa, Ontario

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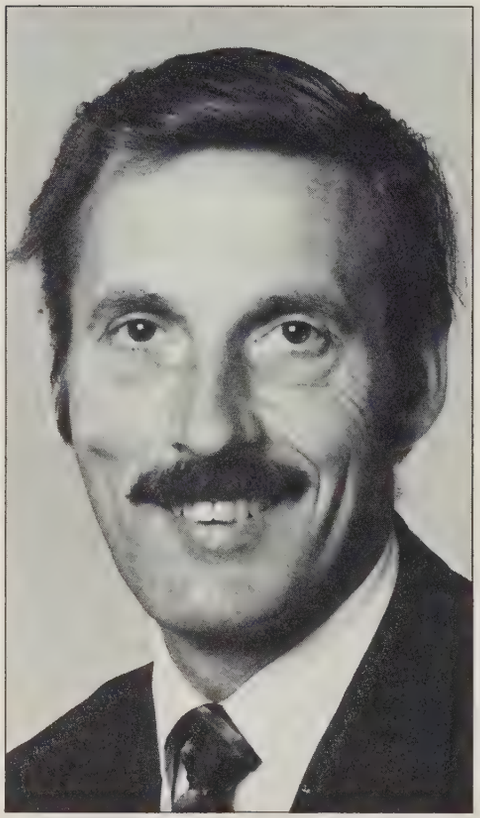
STANDARDIZATION

by Derek. W. Jones, BSc, PhD, CChem, FRSC, FADAM
Chairman, Canadian Advisory Committee ISO/TC 106
Professor and Head, Division of Dental Biomaterials Science
Faculty of Dentistry, Dalhousie University

The term standardization carries with it negative connotations for those of us who value the intellectual freedom of our academic careers. To cause to conform, to make uniform, to remove variations and irregularities, to make all alike are interpretations which conjure up all sorts of sinister implications. However, it is important to recognize that in order for the world to function effectively we have a need for a certain degree of conformity and minimal standards of efficacy and safety. This applies equally to anaesthetic equipment, passenger aircraft, building materials, sports and recreational equipment and of course dentistry. The International Organization for Standardization is the specialized international agency for Standardization which at present comprises the national standards bodies of 90 countries. The ISO promotes Standardization and related activities all over the world, and develops and publishes International Standards. These activities aim to facilitate and foster co-operation of intellectual, scientific, technological and economic endeavours. Standardization is important to both the teaching and practise of dentistry; what good is a handpiece if the bur will not fit, or the operating light if it results in eye-stain, the dental cement if it has a short working time or dissolves readily in the mouth, the dental solder which does not match the melting point of the alloy, the implant alloy which corrodes or any material which has poor biocompatibility?

One hundred years ago an international conference was held in Dresden at which the Europeans and North Americans met to discuss the need for common standards for testing materials. Today we have some 5,800 ISO standards published in both French and English. Dentistry recognized very early the need for standards, the first dental standard being produced over sixty years ago in the U.S.A. for dental amalgam.



Dr. Derek W. Jones

An International Standard is the result of an agreement between the member bodies of ISO. The first important step towards the development of an International Standard takes the form of a "draft proposal" (DP). This document is circulated within the ISO technical committee (in the case of dentistry ISO/TC 106). When substantial support for a DP is obtained within the technical committee, the document is sent to the Central Secretariat for processing as a draft international standard (DIS). The DIS is submitted to all ISO member bodies for voting. A 75 per cent acceptance is required in order for it to become an international standard.

The Canadian Advisory Committee to ISO/TC 106 (Dentistry) participated in the 22nd annual meeting of the ISO Dental Technical Committee held at the Prince Philip Dental Hospital in Hong Kong, November 1986. Some 90 delegates from 15 countries participated during six days in meetings of the various committees. A total of seven subcommittees and 28 working groups met dealing with various areas of dental materials, equipment and devices. The five man delegation from Canadian faculties of dentistry was led by Derek Jones and comprised Drs. R. Barolet, P. Desautels, L.N. Johnson and D.C. Smith. The various committees met to discuss such topics as diverse as, toothpastes, endodontic materials, amalgam, composite resins, cements, adhesion testing, porcelain fused to metal, impression materials, casting alloys, resin denture teeth, denture soft lining materials, solders, bur dimensions and performance, handpieces, root canal instruments, operating lights, dental chairs and units, amalgamators, light activating polymerization systems, tooth brushes and implants.

Canadian participation is at a very high level with considerable involvement in Subcommittee 1 Filling and Restorative Materials, of which Canada holds the Secretariat. Twenty-three countries have membership in Sub Committee #1 (17 participating members and six with observer status). Canadian experts are actively involved in all of the subcommittees and many of the working groups of ISO/TC 106.

It is important that Canada continues to participate in the formulation of standards which influence the standard of dental health care in the country. Canada should continue to participate at the international level since this is the only way in which we can exert a strong influence upon the development of acceptable international standards which can later be put forward as national standards of Canada. It is perhaps most important to ensure that international standards writing for dentistry is not dominated by major manufacturing countries. Canada has a small dental industry but it must be encouraged to grow. One small dental polymer company has recently located in Nova Scotia, this type of enterprise should be protected and encouraged. It is extremely important that the Canadian public and the Canadian dental profession as well as Canadian manufacturers have their best interests represented at the international level.

Extremely important work has commenced dealing with the development of adhesion test methods for dental resin systems. This work is of major significance to dentistry due to the development of numerous products which are claimed to have adhesion to natural dentine and enamel. The development of a standard for prosthodontic resilient lining materials for dentures is now almost complete.

Standards for alloys for dental amalgam, glass polyalkenoate and zinc oxide/eugenol cements have just been published. Draft international standards dealing with root canal sealing materials are nearing completion. The important work dealing with resin based pit and fissure sealants has been completed. The effectiveness of pit and fissure sealant materials as a preventive measure for dental caries is now well established and the standard will fulfil a real need. The very important work on the new revised standard for resin-based dental filling materials has just been forwarded as a draft international standard. Extensive work on revision and consolidation of five standards for dental cements into one new document is now nearing completion at the draft proposal stage. The important work on the performance and specification for dental operating lights has reached the final stages. Work on a standard for toothbrushes has reached the final stages, and new work has, commenced on the performance requirements and therapeutic benefits of toothpastes.

Perhaps the most important development during the year has been the agreement to place a major emphasis on the work involving dental implants and on biocompatibility of dental materials. To date, specific qualitative and quantitative requirements for freedom from biological hazards are not included in dental international standards. The only stipulation being that in assessing possible biological or toxicological hazards reference should be made to the appropriate clauses of the ISO Technical Report 7405. The new initiative taken by Canada at both the subcommittee and technical committee level, should ensure that specific tests will eventually have to be specified in the standards for different classes and types of materials.

A further new item of work which was initiated by the Canadian Secretariat of Subcommittee #1 concerns the light curing equipment used to polymerize dental resin systems. This is of particular interest to Canadian dentistry which is increasingly making use of this new type of equipment.

The developments during the past 12-18 months in ISO/TC 106 committees are of great significance to the public, the dental profession and dental industry in Canada.

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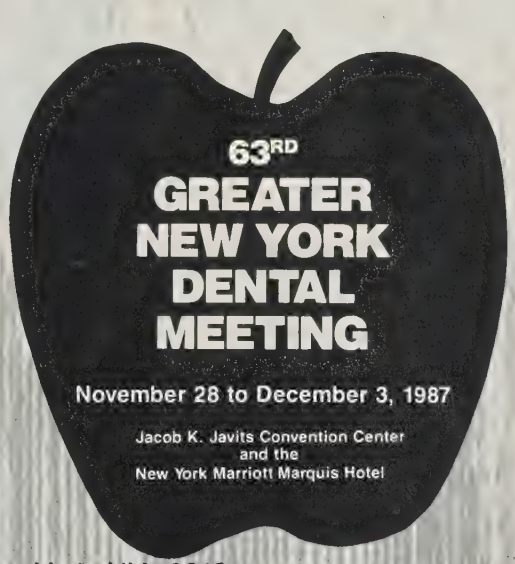

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PRECAUTIONS AND TREATMENT OF OVERDOSE:
The majority of patients who have ingested an overdose large enough to cause hepatic toxicity have early symptoms. However, since there are exceptions, in cases of suspected acetaminophen overdose, begin specific antidotal therapy as soon as possible. Maintain supportive treatment throughout management of overdose as indicated by the results of acetaminophen plasma levels, liver function tests and other clinical laboratory tests.
N-acetylcysteine as an antidote for acetaminophen overdose is recommended and is available in oral and parental dosage forms. More detailed information on the treatment of acetaminophen overdose with N-acetylcysteine is available from the manufacturers of its oral and parenteral dosage forms, or contact your nearest Poison Control/Information Centre.

DOSAGE:
Adults:
650 to 1000 mg every 4 to 6 hours, not to exceed 4000 mg in 24 hours.

Children:
Based on Weight
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An important matter of judgement

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Weigh the evidence[1-13]

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ACETAMINOPHEN		ASA
AT LABEL DOSAGE		
EFFICACY		
equipotent	**ANALGESIC**	equipotent
equipotent	**ANTIPYRETIC**	equipotent
not indicated	**ANTI-INFLAMMATORY**	required dosage generally exceeds analgesic/antipyretic levels and regular administration is necessary — lesser or intermittent dosage is ineffective
SAFETY		
hypersensitivity in rare instances	**ADVERSE EFFECTS**	GI bleeding, ulceration, nausea, vomiting, diarrhea, vertigo, tinnitus, hearing loss, pruritus, urticaria, angio-edema, anaphylaxis
slight increase in prothrombin time for patients on oral anti-coagulants but generally clinically insignificant	**PRECAUTIONS**	history of GI ulcerations, bleeding tendencies, anemia or hypoprothrombinemia; patients with asthma or other allergic conditions; concomitant use with anticoagulants, uricosurics, other non-narcotic analgesics, hypoglycemics, alcohol, methotrexate.
none, except rare hypersensitivity	**CONTRAINDICATIONS**	salicylate sensitivity, active peptic ulcer
no known risk	**IN PREGNANCY**	risk of anemia, hemorrhage, delayed or prolonged labour, increased risk of intracranial hemorrhage in premature infants, premature closure of the ductus arteriosus
no specific risk	**IN CHILDREN**	specific risk of intoxication using therapeutic dosage in febrile and dehydrated children
rare equivocal reports of reversible liver function abnormality at high dosage	**HEPATIC TOXICITY**	reversible hepatitis in apparent risk groups at high dosage
equivocal	**ANALGESIC NEPHROPATHY**	equivocal
oral anticoagulants (as above) chloramphenicol (increased half life)	**DRUG-DRUG INTERACTIONS**	oral anticoagulants, uricosurics, non-steroidal anti-inflammatory agents, oral hypoglycemics, corticosteroids, ethyl alcohol, methotrexate
ACUTE OVERDOSE		
potentially serious	**CLINICAL RISK**	potentially serious
supportive management and/or specific antidote (N-acetylcysteine)	**TREATMENT**	supportive management — no specific antidote

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[1] September, 1978, Clinical Research Associates Newsletter

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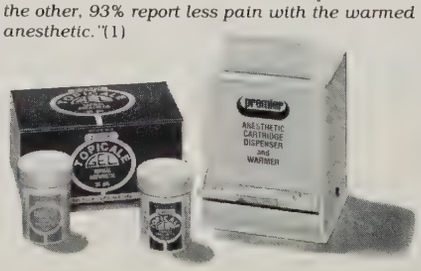

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TAX REFORM HIGHLIGHTS

by Ronald M. MacKenzie, B Comm., CA

This is very brief synopsis of the Tax Reform proposals which were presented by Finance Minister Wilson on the evening of June 18, 1987. These points are only intended to draw your attention to some areas covered by the proposals. In an attempt to be brief and concise, considerable detail, and certain proposals, have not been included. However, you will be able to ascertain the general direction of Tax Reform.

I PERSONAL TAX CHANGES

• A new rate structure will be introduced effective for 1988
– taxable income up to $27,500 – 25 per cent (combined Federal & Provincial)*
– taxable income $27,501 to $55,000 – 39.4 per cent
– taxable income $55,001 and over – 43.9 per cent
• Minimum tax will remain, however major changes will be necessary to this legislation in light of the many changes affecting its components
• The personal exemptions and a number of other deductions will be converted into tax credits, while the $500 employment expense deduction and the $1,000 interest and dividend deduction will be eliminated after 1987
• Increased contribution limits to R.R.S.P.'s will be phased in more slowly than previously announced, with the limit of $7,500 for 1987 and 1988 reaching $15,500 by 1995
• The forward averaging system will be eliminated after 1987, subject to a 10 year transition period in which to bring back into income amounts deducted in 1987 and prior

*Note: The provincial tax used in this article is for B.C. and may differ.

II CORPORATE TAX CHANGES

• Starting in 1988 corporate tax rates will decrease from a general federal rate of 36 per cent to 28 per cent (42.8 per cent combined Federal and B.C.), and from a small business federal rate of 15 per cent to 12 per cent (23.4 per cent combined Federal and B.C.)
• The 3 per cent federal surtax will continue until sales tax reform is implemented

III BUSINESS AND PROFESSIONAL INCOME

• C.C.A. rates applicable to certain classes of depreciable property will be reduced, generally for acquisitions after 1987, to levels considered to be more in line with actual depreciation rates
• The general Investment Tax Credit will continue to be phased out by 1989
• The deduction of hobby farm losses will be increased to the full amount of the first $15,000 of loss for fiscal years commencing after June 17, 1987, subjec to more strictly defined qualifications
• Business use of auto:
a) $20,000 Limitation
– only the first $20,000 of the cost of an auto is eligible for capital cost allowance, for acquisitions after June 17, 1987; similar restriction on leased vehicles
– maximum allowable interest expense on auto loans is $250/month
– commences for taxation years after 1987

b) 1/5 Rule
– for taxation years commencing after June 17, 1987, individuals with a business use of less than 90 per cent for their auto are limited to 1/5 of the normal deduction for automobile costs (ie C.C.A., lease costs, interest)
– fuel and maintenance continue to be fully deductible based on business use
– insurance, registration and regular parking not deductible
• Home office expenses:
– deductions permitted only if space used exclusively on a regular basis and is the principal place of business or used on a regular basis to meet clients/patients
– for fiscal periods commencing after 1987
• Business meals and entertainment:
– limited to 80 per cent of actual cost
– applies to expenses incurred after 1987

IV INVESTMENT INCOME/ CAPITAL GAINS

• The dividend gross-up will be reduced from 33 1/3 per cent in 1987 to 25 per cent in 1988 with a corresponding reduction in the dividend tax credit
• The combination of reduced marginal rates and reduced dividend tax credit will

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cause the effective top combined rate on dividend income to fall from 36 per cent to 29.5 per cent

- Capital gains:
  - 2/3 taxable in 1988 and 1989; 3/4 taxable thereafter (presently 1/2)
  - maximum exemption is $100,000 (present limit)
  - eligible capital gains reduced by cumulative net investment losses after 1987 (includes rental losses, flow through share deductions, partnership losses and interest expense which exceed property income and partnership income from non-active business)
- MURB status:
  - will end in 1991
  - no CCA-rental losses available to new purchasers of MURBs acquired after June 17, 1987
- Certified films:
  - capital cost allowance rate changed from 100 per cent to 30 per cent declining balance (plus immediate write-off up to film income)

V NATURAL RESOURCE INDUSTRIES

- No changes were proposed to the flow-through share mechanism, however the earning of depletion entitlements and the CEDIP grant regime will be phased out by June 30, 1989

VI ADMINISTRATION AND COMPLIANCE

- Individuals who are required to make quarterly instalments must submit them by the 15th of the month rather than the end, starting in March 1990. These individuals will be subject to a new penalty for late or deficient instalments equal to 50 per cent of the interest levied on such deficiencies

VII COMMODITY TAX

- In the second stage of tax reform, the government will introduce a new multi-stage sales tax system
- No decision has yet been made on the precise form the tax will take

As I indicated above, this article intends to highlight some of the more interesting Tax Reform proposals. These proposals require review and approval prior to becoming legislation. You will become aware of the areas of concern expressed by Canadian taxpayers and their representatives. Certain changes will take place. Before you act on any of the Tax Reform proposals, you should contact your Chartered Accountant or lawyer.

Mr. MacKenzie is a Chartered Accountant with his own practice in Vancouver which specializes in providing tax and accounting services to members of the medical and dental professions. He has been a member of the Canadian Tax Foundation since 1976.

MORAL & ETHICAL ISSUES RELATED TO INFECTIOUS DISEASES IN THE DENTAL PRACTICE

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Editor's Note: *This article was prepared by Dr. Thordarson based upon a lecture which he delivered to the 1986 Symposium on Infectious Diseases in the Dental Practice, at the University of British Columbia.*

There are moral and ethical dilemmas associated with the delivery of dental treatment to those who are suffering from various infectious diseases. First, the dilemma of treating or not treating – do we accept these patients or do we turn them away? Second, the hazard to the dentist, other staff and other patients when we do treat those who are infectious.

Over the last few years, we have been exposed to the facts and the statistics regarding AIDS and Hepatitis B, the two infectious diseases that are of primary concern. This paper will present opinions and information that might stimulate thought and help you in your decision-making.

There are questions in everyone's mind and perhaps we would all be comfortable if two things were possible:

1. If we could identify all the people who are infectious so that we could refer them or treat them with special precautions,
2. If there were centres we could refer to which would treat the dental needs of infectious patients.

It appears clear that the identification of everyone who might be infectious is out of the question. Even if everyone was willing to undergo screening for AIDS, we aren't sure what "positive" even means at this point, since the test is for the presence of the antibody, not the antigen.

The referral centre concept is also out of the question since when we look at the great number of people who are positive for HTLV III antibody or for Hepatitis B antigen, clearly there are too many to be referred to a centre even if we could identify the carriers.

Some high risk dental clinics have been developed for high risk dental patients, including those with infectious diseases and those with various medical complications requiring special monitoring. I think more of these need to be developed to treat the medically compromised AIDS patients, in their terminal stages, whose dental treatment rightly belongs in a controlled clinical setting. The treatment belongs in a clinical setting not because these patients are a danger to the practitioner, or to other patients in the practice, but because society has a poor understanding of this type of illness and of the risk associated with it.

Dentists and auxiliaries should understand the fears and concerns of their confrères who are considering dental treatment for HTLV III positive patients. The consequences of acquiring AIDS or Hepatitis B are so disastrous that no matter how often we are told that the likelihood of our contracting these diseases from our patients is remote, it is still a concern. Since there are so many of these patients who require dental treatment, we have to ask ourselves some questions: "If I don't treat and treatment is required, who will treat?" "Since no one is immune to HTLV III infection, why should my colleague have to deal with more cases than he deserves because I refuse to treat? Should I not do my share?" "These patients deserve to have dental treatment and require dental treatment. Do I not have a professional responsibility to treat them?"

As practitioners, we have concerns when we consider these infectious diseases. There are hazards associated with delivering dental treatment, real and imagined. There are hazards to the operator. One dentist in B.C. died of Hepatitis B acquired during his practice. If a practitioner becomes ill with Hepatitis B or with AIDS, he or she may not be

able to practise. If a practitioner were to become a carrier of Hepatitis B or AIDS and could not protect the patients sufficiently, loss of licence could occur. If staff or other patients were to be infected as a result of the provision of dental treatment, a lawsuit could result – particularly if an inadequate medical history had been taken. If other patients became aware that Hepatitis B or HTLV III patients are being treated in an office, this is a concern, as they may exaggerate the hazard to themselves and leave the practice.

Office staff are concerned about becoming ill, even though it is unlikely. Loss of income or job as a result of becoming infected is another concern. There are potential hazards to other patients although there has never been evidence that any patient has acquired AIDS from a dental office contact. Certainly the College of Dental Surgeons of British Columbia receives calls asking whether Doctor X treats AIDS patients or asking for the names of dentists who treat AIDS patients. When we ask if the caller has AIDS, the answer is generally "no, but I just want to know whether Dr. X treats AIDS patients." Why do they ask? Obviously they want to know because if their dentist is treating persons with AIDS, they would not return to the office.

When we are considering this topic, I think we must think seriously of who we are, and what our responsibilities are. We are a profession, a healing profession which is dedicated to caring for those who need help. Profession, at its root definition, means something; it means to avow, it means to stand for something, it means to profess.

There are three components that we might consider as basic to a true profession. The first component is an intellectual one. We study and acquire basic knowledge. This permits us to understand and to reason when dealing with new problems or new issues. This is one area where we are separated from a trade, where one is trained to a task or group of tasks perhaps without understanding, therefore, decreasing adaptability and potential for change.

We, with our understanding and knowledge, must help our staff who are generally trained and the public who have no knowledge or training, to understand some of the issues that concern them related to these infectious diseases. We must deal with any new challenge on an intellectual basis, not an emotional or hysterical one. We have seen the emotion and hysteria that has been generated by the media. They have fostered hysteria in the public with regard to AIDS and I fear they have also encouraged some degree of hysteria in many dentists, because our levels of understanding have been very poor. We are learning all the time. Much of the information that is helpful is brand new, or very recent. Our intellectual requirement is that we consider this material, make informed decisions and help others, be they patients or staff, to understand.

The second aspect of a profession is a moral one. The true profession orients itself to its tasks altruistically. We have a purpose – to serve human need, a duty of service, a calling, all very high principled words in an oftentimes unprincipled world. But society has the right to expect this from us; after all, it gives us a monopoly to practise dentistry and to make a good living from it. The right to regulate our profession is ours. With every right go responsibilities, including service to the public – *all* of the public.

The third factor that characterizes a profession is organization. Professions evolved from the discipline of the medieval guilds, now called Medical Associations, Colleges of Dental Surgeons, etc. These provide to members support, information, licensing and quality control. Organized dentistry, through continuing education courses, etc. makes available the necessary information to make intellectual decisions while considering the moral requirements of service and how practitioners can best accomplish this service.

Professional Codes of Ethics consider that there are underlying professional principles and characteristics. Reference is made to honourable conduct – the use of knowledge and skill for the health and well-being of humanity. One finds mention of a duty of service to the public, leadership to the community regarding health and well-being of individuals and the community. We find statements that information acquired during practice is of a confidential nature, that we have an obligation to be available to treat or arrange for treatment. There is a duty to help spread knowledge, to keep knowledge current and a duty to ensure that actions of auxilliary personnel are of a high ethical standard. There are sections relating to responsibility of the profession and our colleagues to uphold the honor of the profession through integrity, honesty and devotion to the common good.

There are many questions. However, I am going to briefly review only two. First, to treat or not to treat. If I refuse to treat when informed by the patient that he is HTLV III positive, will that cause him to stop admitting his health status? A definite concern. What effect will that lack of admission have on my colleagues? If my colleague does not know of his patient's HTLV III status, and doesn't take precautions and is infected, how will I feel about having helped drive honesty underground? If I refuse to treat the HTLV III positive individual, what statement does that make to that person needing dental treatment, and to society? Do I dignify my profession by indicating that I want to treat only the healthy in my practice? Who treats the sick if I treat only the healthy? Do we deserve our monopoly to provide dental treatment if we won't treat everyone in society? These questions require answers and I hope to have stimulated thought and discussion.

The second point that I want to emphasize is that of the protection of self and others. If we know that we can protect ourselves from infection by barrier techniques and if we know that the barrier also protects the patient from us, why would we not use it? Can we justify to other health care professionals, physicians, nurses, etc., the placing of naked fingers with their fingernails, hangnails and lesions into people's mouths? Can we justify these accepted practices from the past in the face of current knowledge and concerns? Is it good enough to argue that there has not been demonstrable harm to patients in the past as a justification for continuing our old practice? The purpose of this and other articles is to make practitioners better equipped to consider and discuss with colleagues the concepts and facts related to infections in our dental patients, and make necessary adjustments to our patterns of practice. There is much ignorance. We have a duty to challenge ignorance, whether it belongs to the public, our neighbouring dentist, or our associate.

We have been exposed to much new knowledge with which to answer some of the questions which are present. Persons positive with HTLV III virus or Hepatitis B virus can have dental treatment provided without great hazard to practitioners or other patients by following infection control guidelines. While practitioners may be initially fearful of treating infectious patients, experience and knowledge will help to overcome that fear. Everyone accepts the fear and understands it as a reasonable reaction to something that is new and disturbing to us.

The patient did not ask to get Hepatitis B or AIDS. He deserves treatment for his dental as well as his medical disorders. Dentistry has a monopoly on dental treatment and must provide it as required.

We, as therapists, need to acquire knowledge, apply that knowledge with common sense and exhibit compassion. Surely if we keep these three points in mind, we will deal effectively with this issue, perhaps only the first of a number of similar issues which will face us in our careers.

Author's Footnote:
I would like to acknowledge a lecture by Dr. William F. May, sponsored by the CFDE in 1985, and repeated at various centres across Canada, entitled: *The Intellectual and Moral Marks of a Professional*. The stimulation of that lecture and some of the source material in it helped me to develop my lecture, which has been reproduced and published in the preceding article.

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[1]Eakle WS, Ford C, Boyd RL: Depth of Penetration in periodontal pockets with oral irrigation, J. Clin Periodontal 1986; 13:39-44.

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CLINICAL EVALUATION OF LIGHT-CURED AND AUTO-CURED COMPOSITE RESIN RESTORATIONS

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ABSTRACT

One hundred and sixteen light cured (A) and 121 auto-cured (B) composite resin restorations were placed in posterior teeth by senior dental students at the University of British Columbia. A modified cavity preparation was used, with minimal extension. A bevel was placed and the pulp protected with a calcium hydroxide product. The enamel was etched, washed and dried and a bonding agent placed as described by the manufacturers. The composite resin was placed, carved and finished. An attempt was made to keep finishing to a minimum and to avoid using high-speed finishing burs. After the restorations were completed an index was made with a vinyl poly siloxane bite registration material and poured up in die stone. After four years, 27 'A' restorations and 39 'B' restorations were evaluated clinically according to Ryge's criteria and indirectly utilizing stone casts. Clinically, 77 per cent of the 'A' restorations and 89 per cent of the 'B' restorations were in the alpha category for anatomic form. Indirect evaluation showed that 55 per cent of 'A' and 73 per cent of 'B' restorations had no detectable wear.

SOMMAIRE

À l'Université de la Colombie-Britannique, des étudiants en dernière année de médecine dentaire ont effectué 116 restaurations à la résine composite polymérisée (A) et 121 à la résine composite auto-polymérisée (B). Ils ont utilisé une préparation de cavité modifiée avec extension minimale. Ils ont placé un biseau, puis protégé la pulpe à l'aide d'un produit à l'hydroxyde de calcium. Ils ont gravé, lavé et séché l'émail pour ensuite l'enduire d'un produit adhésif en ayant soin de suivre les indications du fabricant. Ils ont enfin appliqué la résine, la sculptant et la finissant comme il se doit. Pour le finissage cependant, ils ont tenté de s'en tenir au minimum et d'éviter les fraises à haute vitesse. Une fois les restaurations terminées, ils ont fabriqué un indice avec un matériau en vinyl polysiloxane pour l'enregistrement de l'occlusion et l'ont coulé dans des matrices en pierre. Quatre ans plus tard, 27 restaurations du type A et 39 du type B ont fait l'objet d'une évaluation clinique conformément aux critères de Ryge et d'une évaluation indirecte à l'aide des modèles coulés dans la pierre. L'évaluation clinique a donné les résultats suivants: 77 pour cent des restaurations du type A et 89 pour cent des restaurations du type B se situaient dans la catégorie alpha pour la forme anatomique. Dans l'évaluation indirecte, on ne pouvait déceler aucune usure dans 55 pour cent des restaurations du type A et dans 73 pour cent des restaurations du type B.

Composite resin restorations continue to be developed for placement in posterior teeth.[1,2] The demand apparently comes from a population of patients wishing to have esthetic as well as non-metallic restorations in posterior teeth. Recently two composite resins were developed to meet this need (**Table I**) – visible light cured (Fulfil), and the other is self-polymerizing (P10). This study evaluates a modified cavity preparation design and the clinical success of these two composite resins when placed in posterior teeth.

METHODS AND MATERIALS

The children participating in the study were attending the University of British Columbia Faculty of Dentistry Children's Clinic. All teeth selected for study restorations were functional. Rubber dam was utilized to control moisture contamination. The cavity preparations were modified to take advantage of the bonding characteristics of the materials. Only caries was removed and the occlusal grooves opened where indicated. A bevel was placed at the occlusal cavo-surface margin to increase the surface area available for bonding. When Class II cavities were to be restored, after placement of the rubber dam, a wedge was placed to achieve some separation in order to enhance proximal contact of the restoration. The matrix used for the Class II restorations was a contoured brass T-band that was securely wedged and the contact burnished. Exposed dentine was protected with a calcium hydroxide material.* The tooth was etched with a 30 per cent phosphoric acid for 60 seconds, washed for 30 seconds and dried. When mixing was required, the manufacturer's instructions were followed. The bonding agent was placed on the etched enamel surfaces and the composite resin

*Dycal, Caulk, Milford, Delaware, U.S.A.

immediately placed on the cavity. Seventy per cent isoproxyl alcohol was used on a teflon plastic instrument to aid in the placement of the materials as well as to facilitate carving and/or shaping of the restoration. When the material had set, finishing procedures were initiated; these were kept to a minimum and included the use of hand instruments (golf knife) and low-speed rotary abrasive discs. In some instances, high-speed finishing with 12-bladed finishing burs was necessary. When all the restorations to be placed in one subject were complete, an index of all restorations and the opposing dentition was recorded with a vinyl polysiloxane bite registration material,** which was mixed according to the manufacturer's instructions. This record was then poured up with die stone, indexed and stored for future reference.

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Fig. 1A. Initial die stone casts of an occlusal P10 restoration.

Fig. 1B. Die stone casts of an occlusal P10 restoration after four years.

One hundred and two children participated in the study. One hundred and sixteen 'A' (Fulfil) composite resin restorations were placed, of which 34 were Class II and the balance were occlusal or occlusal linguals. One hundred and twenty-one 'B' (P10) composite resin restorations were placed and of those, 27 were Class II. All were placed by senior dental students supervised by licensed dentists.

Four years later, 27 'A' and 39 'B' restorations were available for examination. Of the 27 'A' restorations, 23 were occlusal, OL or OB, and four were Class II. The 'B' restorations included 29 occlusal, OL or OB, and five Class II in the permanent teeth, plus five one- or two-surface restorations in primary molars. One examiner evaluated the restorations for anatomic form, margin adaptation, colour stability and margin discolouration, according to the criteria described by Ryge.[3]

A vinyl polysiloxane registration was made of the restoration and poured up with die stone. The casts of the composite resin restorations were paired with the initial die stone casts and evaluated by the same examiner. Magnification (2x) was used during the examination of the casts (**Fig. 1**).

RESULTS

Evaluation of the casts for anatomic form showed that 55 per cent of the 'A' and 73 per cent of the 'B' restorations had no wear after four years. The clinical evaluation for anatomic form (**Table II**) showed that the 'A' restorations had 77 per cent without clinically detectable wear, compared to 89 per cent for 'B' restorations. The clinical evaluation of margins revealed that 55 per cent of 'A' and 66 per cent of 'B' restorations had margins rated alpha. Indirect evaluation for margins had alpha ratings of 50 per cent for 'A' and 59 per cent for 'B'. Clinical evaluation of colour indicated both 'A' and 'B' rated in the 90 per cent range for alpha ratings. Marginal discolouration rated 'A' alpha 55 per cent and 'B' alpha 85 per cent. Restorations that had been replaced by amalgam were eliminated from the study as they were not replaced because of failure but because the dentist in private practice preferred amalgam, or new caries had developed on an unrestored surface.

DISCUSSION

Four years after placement, restorations using both materials exhibited comparable clinical findings for colour, well within the ADA guidelines.[1] Discolouration of margins was detected in 45 per cent of the 'A' restorations but in only 18 per cent of the 'B' restorations. However, in no cases

did the detected discolouration rate a 'Charlie'.

The direct and indirect marginal adaptation evaluations were similar for both materials (50-66 per cent alpha) but lower than that reported by Tonn et al,[4] who after four years rated material 'A' 77 per cent alpha. The difference may be explained by the examiner's clinical judgement of the 'Bravo' rating: "evidence of a crevice along the margin into which the explorer penetrates." When the alpha and Bravo ratings are totalled, all restorations were clinically acceptable.

In 1983, the loss of anatomic form was the major reason that posterior composites did not receive provisional acceptance from the ADA Council on Dental Materials.[5] Wear has been detected clinically and studied in the laboratory.[6,7] However, the visual evaluation introduces examiner variability while the laboratory testing is usually not transferable to the clinical situation. Quantitative clinical measurement of wear[8,9] is now available, with the ADA Council specifying a maximum wear of 150 μm after three years. In 1986, four posterior composite materials received provisional acceptance, two of which are the test materials in this study. The wear rate of materials 'A' and 'B' evaluated clinically (**Table I**) are similar, with slightly higher ratings for 'B'. Boksman[10] and Tonn[4] reported alpha ratings for material 'A' of 87 per cent and 80 per cent after four years, compared to 77 per cent in this study. With indirect evaluation, the alpha ratings decreased to 55 and 60 per cent. The observed loss of material by magnified comparison of stone dies was not equilibrated in micrometers.

The modified cavity preparation used in this study was similar to that considered by Paquette[11] and Gibson.[12] There is no evidence that the minimal reduction of healthy enamel and dentine was detrimental to the clinical success of the restorations. Oldenburg[13] reported a reduction in retention with minimal extension cavities, while Porter et al[14] found superior marginal adaption with conservative preparations in vitro, and Wilson[15] reported no difference between butt-joint and bevel-edged cavities. It is logical to adjust the preparation of teeth to meet the mechanical-physical properties of the material to be used.

SUMMARY

Four years after placement, posterior composite restorations using materials 'A' (Fulfil) and 'B' (P10) are clinically successful. Marginal discolouration and loss of material were detected less frequently in the P10 restorations. Indirect evaluation of wear is more sensitive than clinical evaluation. Minimal cavity preparation is not detrimental to successful posterior composite restorations.

The following are acknowledged for their help and support in this study:

Drs. G. Kersten and **S. Philip**; **Sharon Lord** and **Kim Trask**, student researchers; and Mrs. Barbara Rumney.

Dr. Richardson is professor, and **Dr. Derkson** is associate professor, Department of Clinical Dental Sciences, Faculty of Dentistry, University of British Columbia, 2199 Wesbrook Mall, Vancouver, B.C. V6T 1Z7

Reprint requests to Dr. Richardson.

TABLE I

Composite resin materials evaluated

Composite Resin	Manufacturer	Batch Numbers
'A' Fulfil	L.D., Caulk, Milford, Delaware	031782
"B" P10	3M, St. Paul, Minnesota	196, 158, 1511, 1611, 127008

TABLE II

Evaluation after 4 years: (Percentage)

Material	Color		Marginal Color		Marginal Adaptation		Anatomic Form Direct		Anatomic Form Indirect	
	Alpha	Bravo	Alpha	Bravo	Alpha	Bravo	Alpha	Bravo	Alpha	Bravo
'A' Fulfil	93	7	55	45	55	45	77	23	55	45
'B' P10	97	3	85	15	66	34	89	11	73	27

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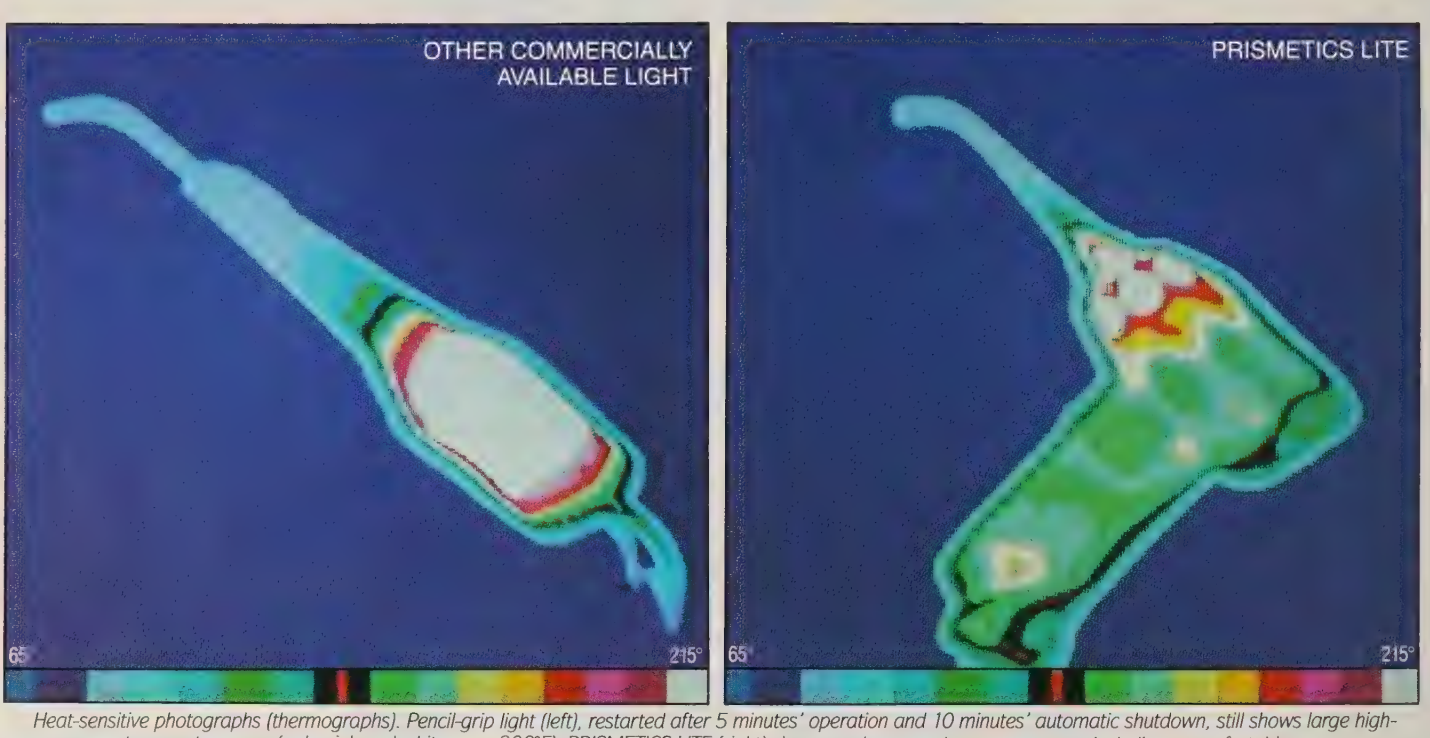

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THE USE OF A CAST ETCH BRIDGE IN A DIASTEMA SITUATION

Kevin J. McCann, BSc, DDS
Chatham, N.B.

ABSTRACT

The cast etch bridge is a successful means of replacing either anterior or posterior teeth, or to splint teeth that have been weakened through periodontal disease. A number of variations of the cast etch technique have been described in the literature. This report describes a means of replacing a missing anterior tooth while maintaining a midline diastema. It also emphasizes the use of diagnostic wax-ups to aid in case presentation and treatment mode selection.

SOMMAIRE

Le pont papillon est un bon moyen de remplacer des dents antérieures et postérieures, ou d'éclisser des dents affaiblies par la parodontite. Suivant les publications parues sur le sujet, la technique papillon connaît plusieurs variantes. Dans cet article, on décrit un moyen de remplacer une dent antérieure disparue tout en maintenant un diastème en ligne médiane. De plus, on préconise l'usage de modelages en cire pour faciliter la description du cas et déterminer le choix du traitement.

Resin bonded prostheses were first described by Rochette[1] in 1973. In that report, he described a method of attaching a perforated metal periodontal splint to lower anterior teeth using composite resin. The perforated metal design, however, had limitations such as retention and weakness of the metal framework. These limitations were improved with the development of the etched metal framework by Livaditis and Thompson.[2] The process of electrolytically etching the alloy creates a microretentive surface for resin bonding. Coupled with improved resin materials that are specifically designed for use in luting these retainers, the cast etch technique enjoys a good success rate and thus occupies an important place in conservative restorative dentistry.

The cast etch bridge allows the practitioner to replace missing teeth or splint periodontally weakened teeth with a minimum of tooth reduction. As an added advantage, this technique leaves the more traditional modes of treatment open should the cast etch design fail. There have been reports on the use of the cast etch technique to replace both anterior[3] and posterior[4] teeth. Simonsen et al[5] have described a number of clinical variations utilizing cast etch technology. This report describes a clinical variation in which an anterior tooth was replaced while maintaining a midline diastema.

CLINICAL HISTORY

The patient, a 41-year-old male, presented on routine recall examination with no specific complaints. He was wearing an acrylic temporary partial denture to replace tooth 11 which was lost traumatically when he was a child. He had been wearing similar appliances since the incident and had no complaints about their function, comfort or esthetics. In order to fill the space created by the loss of tooth 11, two denture teeth were used (**Fig. 1**). When questioned about the presence of a diastema before the incident, the patient could not provide any positive report. The limitations of the acrylic partial denture were described to the patient and he consented to treatment for replacing the appliance.

The options that were available consisted of the following: 1) removable partial denture incorporating a cast metal framework and wrought wire clasps; 2) a three-unit

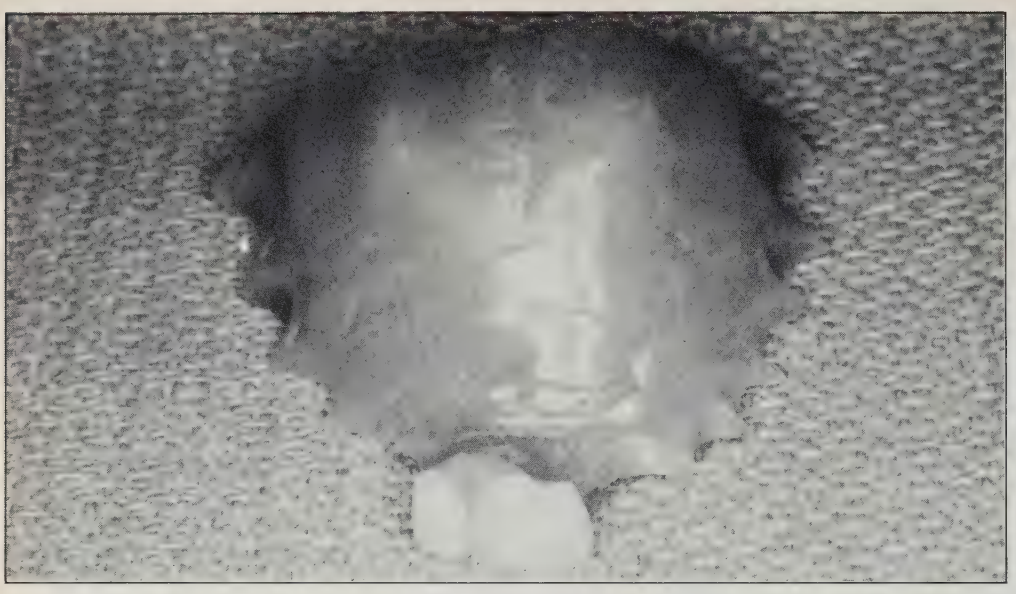

Fig. 1. Acrylic partial denture that patient presented with.

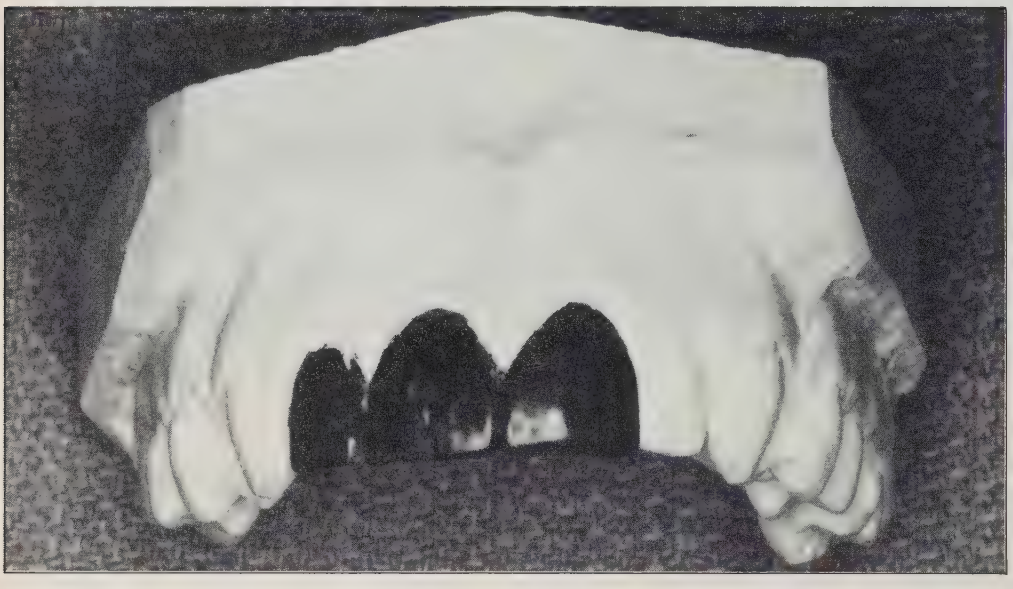

Fig. 2. Diagnostic wax-up of a traditional three-unit bridge. Pontic and retainers had to be oversized in order to fill the space created by the lost tooth 11.

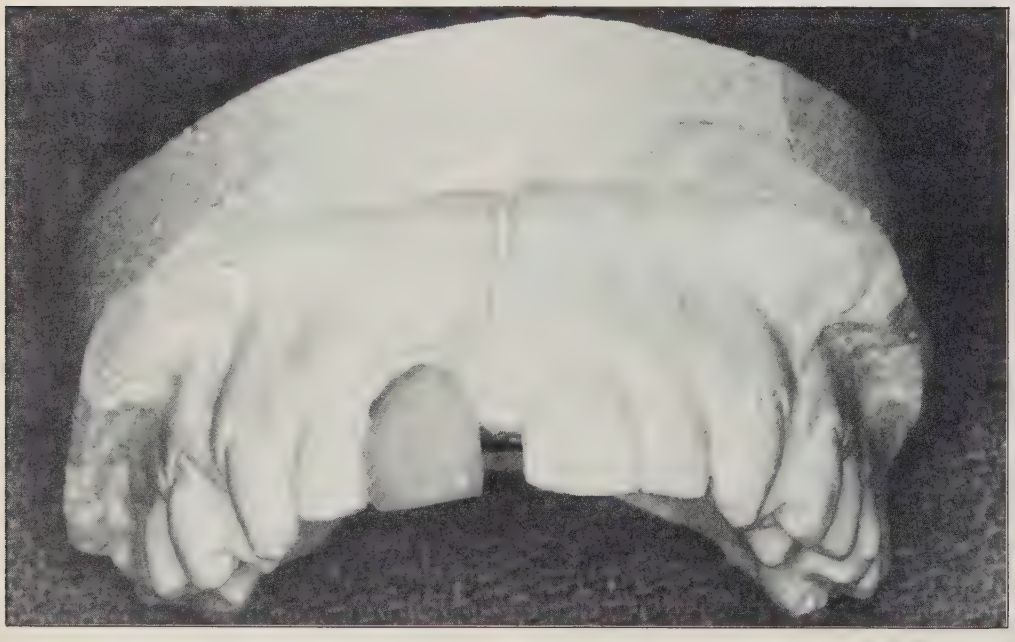

Fig. 3. Diagnostic wax-up of a cast etch bridge that incorporates a strut connecting the pontic and the retainer on tooth 21.

bridge that would not maintain a diastema; 3) a three-unit bridge that would maintain a diastema; and 4) a cast etch bridge that would maintain a diastema. In order to facilitate case presentation and treatment selection, diagnostic wax-ups of a three-unit bridge and a cast etch bridge were performed. The cast partial denture was immediately dismissed as being too extensive for the replacement of a single tooth. In viewing the waxed-up three-unit bridge (**Fig. 2**), it was believed that the oversized retainers and pontic would provide an unacceptable result. In addition, the patient was concerned about the amount of tooth reduction that would be required to fabricate a three-unit bridge to restore the diastema. Since the occlusion on the abutment teeth was light and contact was in the incisal third, it was felt that a cast etch bridge would be successful. The patient was satisfied with the esthetic result of this design as suggested by the wax-up (**Fig. 3**).

METHODS

Tooth preparations conformed to those principles described by Simonsen et al.[5] In short, these included the preparation of a distinct path of insertion in the occlusogingival direction, utilization of a proximal wrap-around design, use of maximal bonding area and use of a cingulum notch. The proximal wrap-around concept could not be used to its full extent on tooth 21 as the retainer would be visible through the diastema. Also included in the tooth preparations were chamfer shoulder gingival margins. Such margins provide the technician with a distinct location to terminate the metal framework, and allow for a smooth transition between tooth structure and metal. The pontic and the retainer on tooth 21 were to be connected by a strut or loop. This design allowed for the restoration of a midline diastema. Following completion of all tooth preparations, whole arch impressions were taken. Polyvinylsiloxane was used for the maxillary arch and irreversible hydrocolloid was used for the opposing arch. Both impressions were poured up in die stone.

The bridge was fabricated and returned for try-in prior to metal etching. Following a successful try-in, the bridge was returned to the laboratory for etching according to the specifications of the alloy manufacturer. The appliance was later luted in place under rubber dam isolation using Comspan Opaque*. **Figures 4** and **5** demonstrate the final result.

*L.D. Caulk, Milford, Delaware, U.S.A.

DISCUSSION

This report describes a variation of the cast etch bridge technique, namely the replace-

ment of a missing anterior tooth while maintaining a diastema. It also demonstrates the importance of a diagnostic wax-up phase in aiding case presentation and selection of treatment modes. The wax-up indicated that the pontic and retainer would be oversized relative to the remaining teeth in the arch; this was deemed to be unacceptable. The cast etch design that incorporated the strut solved the problem of using an oversized pontic. Since the strut lies on the ascending palate, it is hidden from view during normal activity, and it effectively restores the midline diastema.

The views expressed herein are those of the author and do not necessarily reflect those of the Canadian Forces Dental Services.

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Reprint requests to: **Dr. K.J. McCann**, 103 Vancouver Crescent, Chatham, N.B. E1N 2E6.

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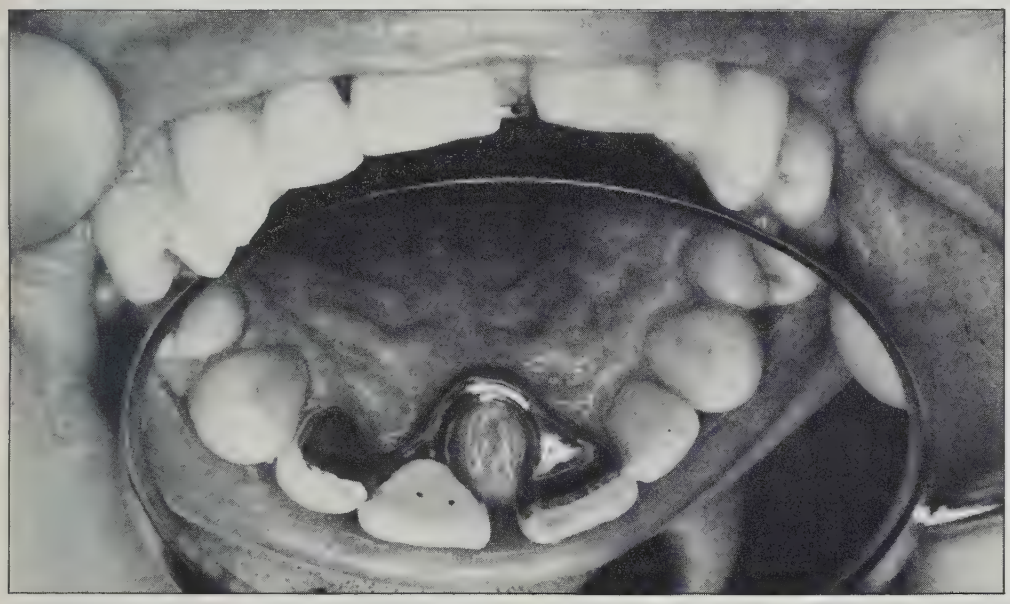

Fig. 4. Lingual view of appliance post-insertion. The marks on the pontic and retainer indicate CO contacts.

Fig. 5. Frontal photograph of inserted appliance. Note that the strut is not visible, and the acceptable esthetic results.

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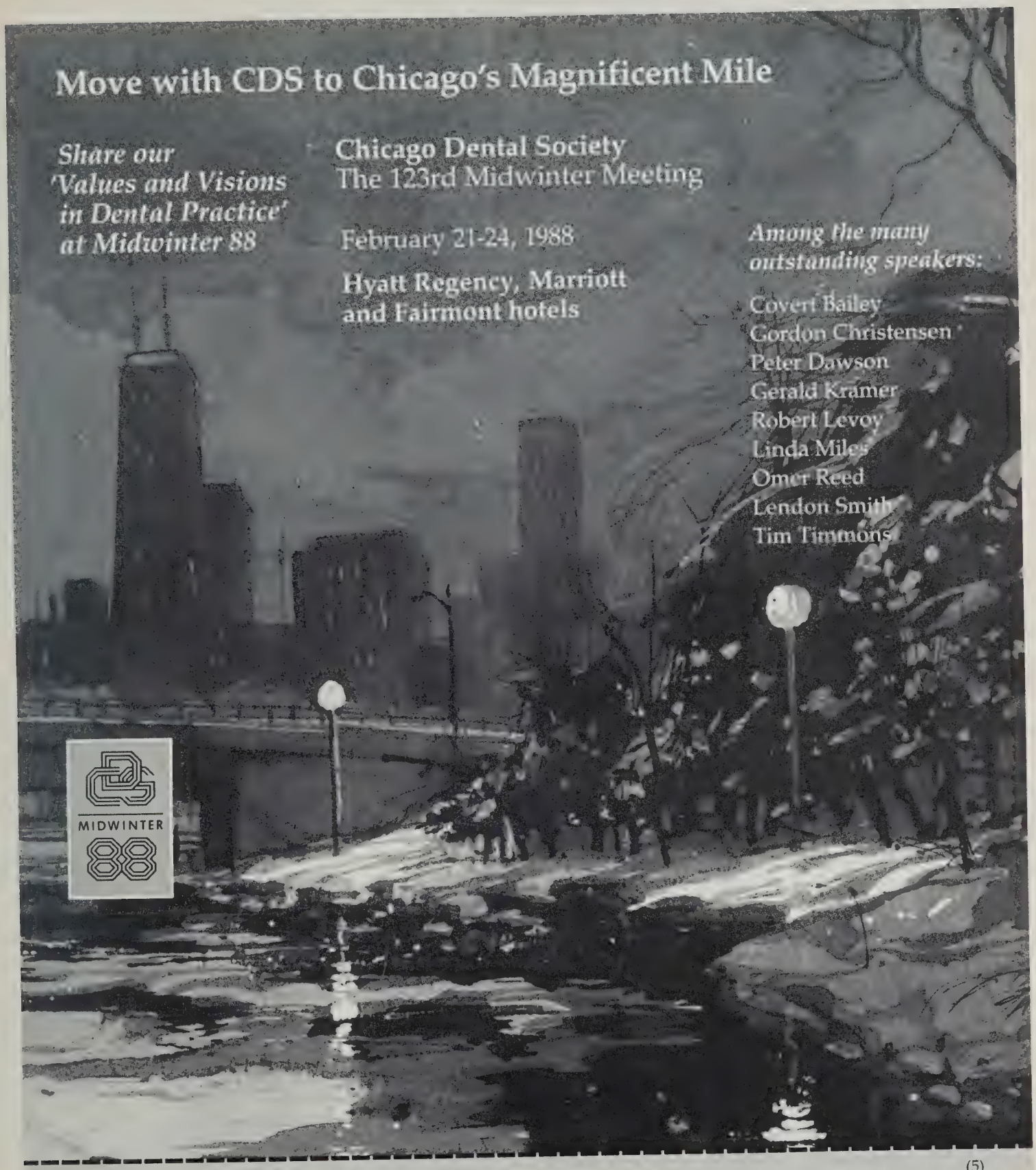

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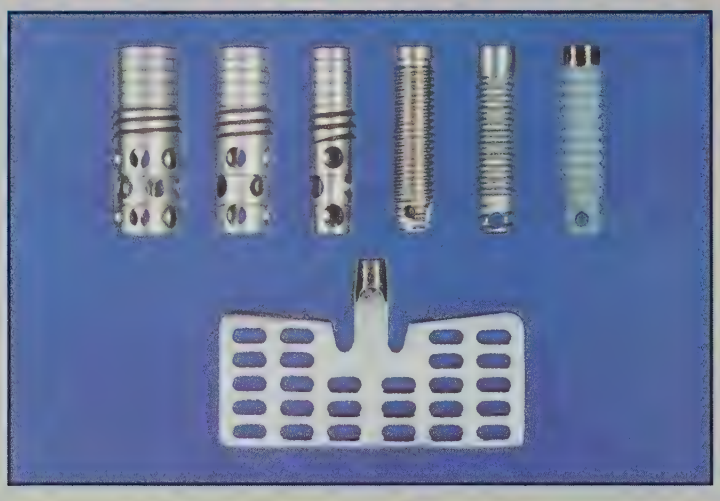

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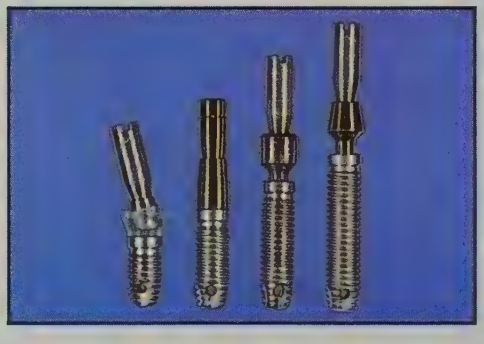

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FACTORS INFLUENCING DENTAL PROFESSIONALS' UPTAKE OF NEW PREVENTIVE CLINICAL PROCEDURES AND MATERIALS

Lyons C. Ringrose, BSc, DDS
Renfrew, Ont.

New knowledge and recommendations, even though widely diffused, are not necessarily universally accepted nor do they lead to practice change.[1-4] *What is accepted, the process through which it comes about, and the factors that influence this acceptance, are the subjects of this paper.*

ABSTRACT

Innovation diffusion is the process that influences health providers' attitudes, acceptance and uptake of new preventive and clinical procedures and materials. An innovation is an idea, practice or object perceived as new by the individual. Fluoride mouthrinse and sealants are innovations and both lend themselves to diffusion research because their adoption or non-adoption can be specifically defined. The use of composites for Class II restorations and the use of pantographic units in radiology are two other clinical topics that lend themselves to the same type of research. The factors involved in the diffusion process are many and complex. Little is known about the diffusion of dental innovations and the set of factors involved in the process of adoption and maintenance of new dental procedures and materials. An understanding of how information and activity diffuse to the dental professional is important because this will potentially enhance the provision of dental care to the public.

SOMMAIRE

La diffusion des innovations est un procédé qui consiste à exercer une influence sur les attitudes des personnes qui offrent des services de santé afin qu'elles adoptent de nouvelles procédures ou de nouveaux matériaux servant à prévenir les maladies ou à les guérir. Une innovation est une idée, un usage ou un objet qu'une personne conçoit comme une nouveauté. Les matériaux de scellement et les eaux dentifrices fluorurées sont des innovations et se prêtent à des recherches sur la diffusion parce que leur adoption ou leur rejet peut se déterminer avec précision. L'utilisation de résines composites pour les restaurations de type II et l'utilisation de pantographes en radiologie sont deux autres sujets cliniques qui se prêtent au même genre de recherches. Les facteurs qui entrent en jeu dans le processus de la diffusion sont nombreux et complexes. On sait peu de choses touchant la diffusion des nouveautés dentaires et l'ensemble des facteurs reliés au processus de l'adoption et du maintien de nouvelles procédures et de nouveaux matériaux dentaires. Il est important de comprendre comment l'information et les habitudes se répandent dans la profession dentaire si l'on veut pouvoir y améliorer la prestation des soins au public.

Whatever the reasons, there is evidence in the United States that dentists are increasingly utilizing preventive services. A survey in 1957[5] listed cleaning and polishing, topical fluoride measures, X-ray examination and periodic recall as preventive measures. This survey also revealed that younger dentists were more likely to practise preventive dentistry, to be more active in professional organizations and to have patients predominantly in the upper-income group. It was also noted that the more preventive-oriented the practice, the higher the income. Those practices which were least preventive-oriented reported the reasons as: lack of time, adverse patient reaction, smaller monetary return for services, and the procedures were not interesting to perform. A more recent study,[6] in 1975, revealed other preventive measures, including education for plaque control, oral bacteria testing, pit and fissure sealants, subgingival scaling, topical fluoride applications, charting and nutritional counselling. In this study, there was, apparently, a change in dentists' attitude; there was a wider adoption of preventive measures and a broader range of preventive services.

What major factors should one consider as being influential in the diffusion process among dentists? The dental literature, economics, advertising and personal communication with colleagues might all be involved. How these independent variables interact in the diffusion process has been the subject of recent studies.[7] Investigations indicate that dentists rely upon various sources of information in acquiring knowledge of preventive and clinical procedures and materials.[8,9] The Bradnock and Rock[8] report noted that the choice of products depended mainly upon information gained from journals or postgraduate lectures. The views of professional colleagues were also

influential, but little notice was taken of information supplied by dental manufacturing companies. This seems to conflict with their findings that the increased use of sealants was probably a reflection of the widespread commercial availability of these materials. It is also interesting to note the widespread use of fluoridated toothpastes and their important role in reducing the caries rate. Professional dental journals are an important source of information and the effect of advertising in these journals injects another variable. The role of the salesman is another interesting potential factor. Therefore, the role of the manufacturers' advertising influence may be greater than reported.

The Lewis report[10] was more revealing. His survey listed 12 factors which could influence a practitioner's or teacher's use of new innovations (**Table I**). Using factor analysis which groups similar factors together it was then possible to sub-divide the 12 factors into the following groups:

1. **Convenience**
   a. Ease of application
   b. Cost
   c. Advertisements in literature
2. **Externalities**
   a. Manufacturers' recommendations
   b. Dental insurance coverage
   c. Request of patients/students
3. **Scientific Literature**
   a. Articles in professional journals
   b. Articles in books
   c. Published guidelines or reviews
4. **Advice-Education**
   a. Recommendation of colleagues
   b. Postgraduate/continuing education courses
   c. One's own undergraduate training

''Externalities'' ranked as most important. (51 per cent of variance explained), ''Scientific Literature'', next in importance (21 per cent), ''Convenience'' (51 per cent) and ''Advice-Education'' (12 per cent).

It should be noted that the sample in this analysis included dentists and dental hygienists in both private and public practice, as well as teachers of dentistry and dental hygiene students. The results when only dentists in private practice are analyzed change somewhat.

DISCUSSION

Some of the factors involved in the acceptance and use of preventive procedures and materials have been discussed. It is interesting to note that continuing education, articles in professional journals and the recommendations of colleagues are high on the list of importance. Cost was mentioned by Bradnock,[8] yet in Lewis' survey, it ranked ninth. Goldstein[11] believes the selection of preventive materials and procedures should be based on effectiveness, acceptance, cost and practicality. Burt[12] believes that cost is the principal factor in the choice of any preventive procedure.

The priority listing of factors is not as important or interesting as the diffusion process, which is composed of three sequential stages:[13,14]

1. The *invention*, which refers to the creation or development of an idea.
2. The *diffusion*, which is the process whereby an invention/innovation is transmitted through a social system.
3. The *consequence*, which occurs as a result of the adoption or rejection of the innovation.

Decision-making takes place during the diffusion stage. The rate of adoption by the decision-maker is related to his/her perception of the innovation's following characteristics:[14] 1) the relative advantage over another idea, 2) the compatability of the receiver's values, past experience and needs, 3) the ''trialability'' of innovation permitting limited experimentation, and 4) the observability of the innovation's results to others. If the social system that the receiver belongs to has modern rather than traditional norms, then it is more change oriented, and opinion leaders tend to be quite innovative.[14] Opinion leadership refers to informal leadership by a member within a social system, who has earned this influence.[14]

Two dental innovations that could be studied are fluoride mouthrinse programs and pit and fissure sealants. The fluoride rinse can be called a ''substitute'' technology, which is one that replaces an existing technology. Another example is the use of acrylics over vulcanite for denture bases. It was also complete at the time of introduction and directly affects the trend involved in the cause of dental decay.[15] Sealants are an ''add-on'' invention; i.e., one which introduces a new technology. Sealants also required the development of materials and/or technique, and their application is not as simple as fluoride rinses. Both rinses and sealants require frequent intervention by professionals.

The diffusion of these two innovations differs. The rinses were promoted by pharmaceutical companies which distributed packaged information including fluoride rinse to school superintendents and other officials in the school system.[16] Sealants were not promoted by any agency and were not as readily accepted as the mouthrinses. About 25 per cent of school districts in the United States have implemented fluoride-rinse programs.[16] The role of the school administrators and principals was important for the acceptance of these programs, but the private practitioners and public health officers were the decision-makers for sealants. Sealants also failed to demonstrate advantages, compatability and trialability and were too complex for early adoption. The role of the decision-makers is apparent, at least with the fluoride mouthrinse and sealant innovations.

The acceptance of sealants had two other drawbacks: the technology was incomplete and there was a lack of promotion.[17] The two examples cited emphasize the development and important role of effective communication in the promotion and accurate implementation of innovations.

SUMMARY

The diffusion of innovations is a complex behavioural phenomenon. The surveys of Lewis[7] and Bradnock[8] pointed out the importance of professional journals in the dissemination of information. How accurate the information is and how well dental professionals are able to interpret these journals is another question.[18] The dental journals surveyed by Lewis et al[18] showed a low frequency of clinical surveys, a lack of retrospective case-control and prospective cohort epidemiologic studies. They concluded that the level of research design of dental epidemiologic as well as clinical studies was not high in national dental journals, with a few exceptions, namely the British Dental Journal and the Journal of the American Dental Association. The accurate and reliable diffusion of information to dental professionals through dental journals may be questionable, and the flow of information from the basic and clinical researchers seems haphazard. The application of topical fluoride in preventive care is a case in point. The use of a pre-treatment prophylaxis has recently been proven not to be significantly effective, yet the procedure is being taught to undergraduate dental students (although, in fairness, the prophylaxis clinical trials have just been published). Procedures, effective or otherwise, have a way of entrenching themselves into accepted methodology and dogma, and are difficult to change. Although the importance of well-designed clinical trials, properly refereed journal articles and a trained professional body able to interpret the information are the ultimate achievable goals, there have been times in which curiosity has led to important knowledge, such as McKay's curiosity about Colorado Brown stain.[19]

Although case reports are not research, one should appreciate their potential in the diffusion process for adoption of both good and bad practices. If accuracy of knowledge is an aspect of the utilization of preventive procedures and materials, the role and

importance of journal articles in that process require further investigation.

Dr. Ringrose is acting dental director of the Renfrew County and District Health Unit, and a staff member of Renfrew Victoria Hospital.

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TABLE I

Factors influencing Dental Practitioners and Teachers to use New Materials and Procedures (in priority order)

Rank	Factor	Not important at all %	Not Important %	Undecided %	Important %	Very Important %	Totals (N)	Median
1	Postgraduate/continuing education courses	1.3	1.3	10.7	35.1	51.6	450	4.53
2	Article in professional journal	0.4	2.9	15.6	36.5	44.6	455	4.35
3	Recommendation of colleague	1.8	5.1	23.7	41.0	28.4	451	3.97
4	Ease of application or use	3.6	6.5	25.9	37.9	26.1	448	3.87
5	Published guidelines or reviews	1.1	8.3	27.0	40.1	23.4	444	3.84
6	Own undergraduate training	3.6	7.4	27.7	35.1	26.1	444	3.82
7	Article in book	4.3	15.7	32.0	33.8	14.3	447	3.44
8	Request of patients/students	6.0	16.1	35.0	27.9	15.0	448	3.30
9	Cost	9.6	17.6	30.8	24.6	17.4	448	3.24
10	Manufacturer's recommendations	13.8	33.3	32.6	13.8	6.5	448	2.59
11	Advertisement in literature	14.8	37.2	35.0	9.0	4.0	446	2.45
12	Dental insurance coverage	32.6	22.4	24.0	10.4	10.6	442	2.28
13	Dental sales or detail men	10.8	38.4	35.1	13.5	2.2	185	2.52

From second survey of Ontario dentists, so N is smaller.
Acknowledgement: Dr. D.W. Lewis

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LE MÉCANISME DE LA DOULEUR ET LE TRAITEMENT DE LA SENSIBILITÉ CERVICALE DENTINAIRE

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RÉSUMÉ

La récession gingivale expose la dentine au niveau du collet anatomique des dents. Divers stimuli provoquent de la douleur lorsqu'ils sont transmis à ces portions radiculaires dénudées. Le mécanisme de la transmission de la douleur ainsi que quelques méthodes de traitement de la sensibilité cervicale dentinaire sont passés en revue.

ABSTRACT

Gingival recession exposes dentine at the anatomical neck level of the teeth. Various stimuli cause pain when transmitted to these bare root sections. The pain transmission mechanism as well as some methods used to treat dental cervical sensitivity are discussed.

INTRODUCTION

La stimulation de la dentine dénudée à la jonction amélo-cémentaire peut être très douloureuse et constitue un sérieux désagrément pour les patients qui en sont affligés (Schluger, Yuodelis et Page 1977). La limite cervicale des dents est normalement recouverte et protégée par de la gencive attachée et de la gencive libre marginale et papillaire, dont l'attache épithéliale est rattachée au cément, ou partiellement à l'émail, près de la jonction amélo-cémentaire. Il se produit des zones de dentine cervicale dénudée lorsque la gencive libre marginale se rétracte de la jonction amélo-cémentaire. Lors de la perte de l'attache épithéliale et des tissus de soutien, la gencive régresse de la jonction amélo-cémentaire, en laissant derrière elle du cément dénudé qui recouvre la dentine radiculaire ou simplement de la dentine dénudée.

BUT

Cet article résume brièvement les méthodes de traitement de la sensibilité cervicale dentinaire et peut intéresser les praticiens qui sont régulièrement confrontés à ce problème.

ÉTIOLOGIE DES RÉCESSIONS GINGIVALES

Les récessions gingivales peuvent résulter d'un phénomène physiologique, tel le processus normal de vieillissement (Adams 1975) ou l'extrusion; d'un phénomène pathologique, telles les parodontopathies (Schluger, Yuodelis et Page 1977) ou une hygiène buccale négligée associée à un régime alimentaire acide (Hollaway et coll. 1958, Stafne et Lovestedt 1949); d'une situation anatomique, telles les malpositions dentaires, les morphologies dentaires prédisposantes ou des positions hautes de freins qui sont des facteurs d'aggravation. Citons encore les récessions traumatiques ou mécaniques dues à une technique inadéquate de brossage dentaire (Pindborg 1970), ainsi que les récessions provoquées par le traitement chirurgical lors des repositionnements apicaux de gencive attachée (Nabers 1954).

HISTOLOGIE

Principalement par le foramen apical, mais aussi par des foramines accessoires, des nerfs et des vaisseaux sanguins pénètrent dans le système canalaire, puis dans la chambre pulpaire de la dent. Les odontoblastes, qui tapissent toutes les parois de la chambre pulpaire et du système canalaire, ont chacun une projection cellulaire qui pénètre dans la prédentine, la dentine et même un peu dans l'émail. Ces prolongements d'odontoblastes sont logés dans des tubuli dentinaires qui sont constitués de manchons de fibres collagènes fortement minéralisées. Chaque tubulus dentinaire est rempli d'un liquide extracellulaire dans lequel baigne un prolongement d'odontoblaste. Ces derniers peuvent s'étendre jusqu'à l'extrémité des tubuli dentinaires, mais en général, ils se terminent à une courte distance de l'extrémité tubulaire. À mi-chemin à travers la dentine, le nombre de tubuli dentinaires se situe entre trente et

quarante mille par millimètre carré (Brännström 1981). Les tubuli dentinaire et la trame de collagène minéralisée intertubulaire forment la dentine qui enveloppe tout le système vasculaire et nerveux de la dent. L'émail recouvre toute la dentine coronaire.

MÉCANISME DE LA TRANSMISSION DE LA DOULEUR

La dentine découverte rend les tubuli dentinaires vulnérables à une variété de stimuli, par exemple, l'osmose, les agents chimiques, les irritations mécaniques, les effets thermiques, l'insufflation d'air et la dessiccation. Tous ces stimuli engendrent de la douleur à partir des surfaces dentinaires exposées. Il se crée alors un déplacement de liquide extracellulaire dans les tubili dentinaires; le mouvement du liquide stimule les odontoblastes, et cette irritation mécanique entraîne une activité nerveuse dans la pulpe. C'est à ce moment que la douleur est perçue (Brännström et Aström 1972). Les odontoblastes communiquent entre eux par l'intermédiaire de jonctions qui répondent au stimulus électrique, ainsi qu'avec les fibres nerveuses pulpaires (Holland 1977). Ces fibres nociceptives A delta et C sont stimulées, et alors, via les branches afférentes du trijumeau, les stimuli sont interprétés comme douloureux à la fois dans le thalamus et dans les territoires corticaux de projection (Bradley 1981).

LES AGENTS DE DÉSENSIBILISATION

Au point de vue clinique, la sensibilité cervicale dentinaire provoque souvent une vive inquiétude chez les patients. La douleur peut être particulièrement sévère après un traitement de chirurgie parodontale. De même, ceux qui mangent beaucoup de fruits frais (agrumes) souffrent souvent de sensibilité cervicale au niveau de surfaces dentaires érodées par l'action déminéralisante des acides sur la dentine et l'émail.

Le traitement de la sensibilité cervicale dentinaire a pour but de créer une couche de protéines dénaturées ou une couche calcifiée à l'extrémité externe des tubuli dentinaires exposés. L'application d'astringents puissants (solution de chlorure de zinc à 80 pour cent ou solution ammoniacale de nitrate d'argent), d'acides (phénol liquéfié), de métaux lourds (chlorure de strontium à 10 pour cent tel qu'on le trouve dans la solution désensibilisante Zarosen), ainsi que d'autres agents dénaturants, s'avère douloureuse lorsqu'ils sont utilisés sur de la dentine dénudée.

Les acides et alcalins puissants, utilisés comme substances dénaturantes, peuvent aussi abîmer la gencive et l'émail. Par conséquent, des formules moins puissantes sont utilisées, telles les solutions diluées de glutaraldéhyde ou de formaldéhyde qui sont parmi les plus vieux remèdes utilisés. Les fluorures sont également utilisés parce qu'ils sont des agents efficaces de dénaturation des protéines, et qu'à faible concentration, ils précipitent les ions calcium actifs pour produire un fluorure de calcium stable. Ils sont aussi cariostatiques. Le fluorure d'étain, le fluorure de sodium et les fluorures aminés sont tous utilisés sous différentes formes. Les gels fluorés acidulés, les pâtes prophylactiques fluorées et les vernis adhésifs (Duraphat) sont d'un emploi facile et souvent utilisés. L'usage régulier, à domicile, de pâtes dentifrices médicamenteuses qui contiennent un ingrédient dénaturant actif, a été prônée pour désensibiliser la dentine: le formaldéhyde dans Emoform, le strontium dans Sensodyne, un fluorure aminé dans Elmex et le monofluorophosphate dans Colgate (Accepted Dental Therapeutics 1973/4).

DISCUSSION

L'application des agents de désensibilisation doit être faite très soigneusement. Il faut isoler et sécher les régions à traiter, et ne pas répandre le médicament sur les tissus mous adjacents. Deux applications ou plus peuvent être nécessaires pour assurer le succès du traitement. L'hyaloplasme intratubulaire, calcifié ou dénaturé, agissant comme un bouchon, doit être suffisamment épais pour arrêter la transmission des stimuli et empêcher ainsi le déplacement mécanique du contenu des tubuli dentinaires. Cette désensibilisation, faite par du personnel dentaire entraîné, est souvent la seule forme de traitement qui fournit un soulagement immédiat de la sensibilité. Cette désensibilisation, temporaire, est acquise pendant une période suffisamment longue pour permettre au patient de se brosser soigneusement les dents. En effet, un brossage dentaire journalier avec une pâte dentifrice désensibilisante, constitue le seul traitement qui, par la suite, agira efficacement pendant une longue période (Hirschfeld 1939). Par ailleurs, la sensibilité ne dure pas longtemps lorsque le patient maintient soigneusement son hygiène dentaire (Schluger, Yuodelis et Page 1977).

Les nombreux remèdes qui existent pour traiter la sensibilité cervicale dentinaire, indiquent qu'il y a probablement autant de différentes techniques d'emploi, chaque remède vantant ses propres succès. Le problème à résoudre est: suppression de la sensibilité cervicale par la formation d'une épaisse couche protectrice sur la dentine dénudée. Mais attention, la région redevient sensible dès que la couche protectrice est enlevée.

CONCLUSION

Les facteurs qui agiront pour traiter et éliminer la sensibilité cervicale dentinaire sont: la réduction de l'ingestion de fruits acides et considérer l'ingestion de fruits et d'aliments acides comme une partie d'un des repas quotidiens, l'usage régulier d'une pâte dentifrice médicamenteuse couplé à une technique adéquate de brossage, et enfin, un examen dentaire semestriel par un praticien.

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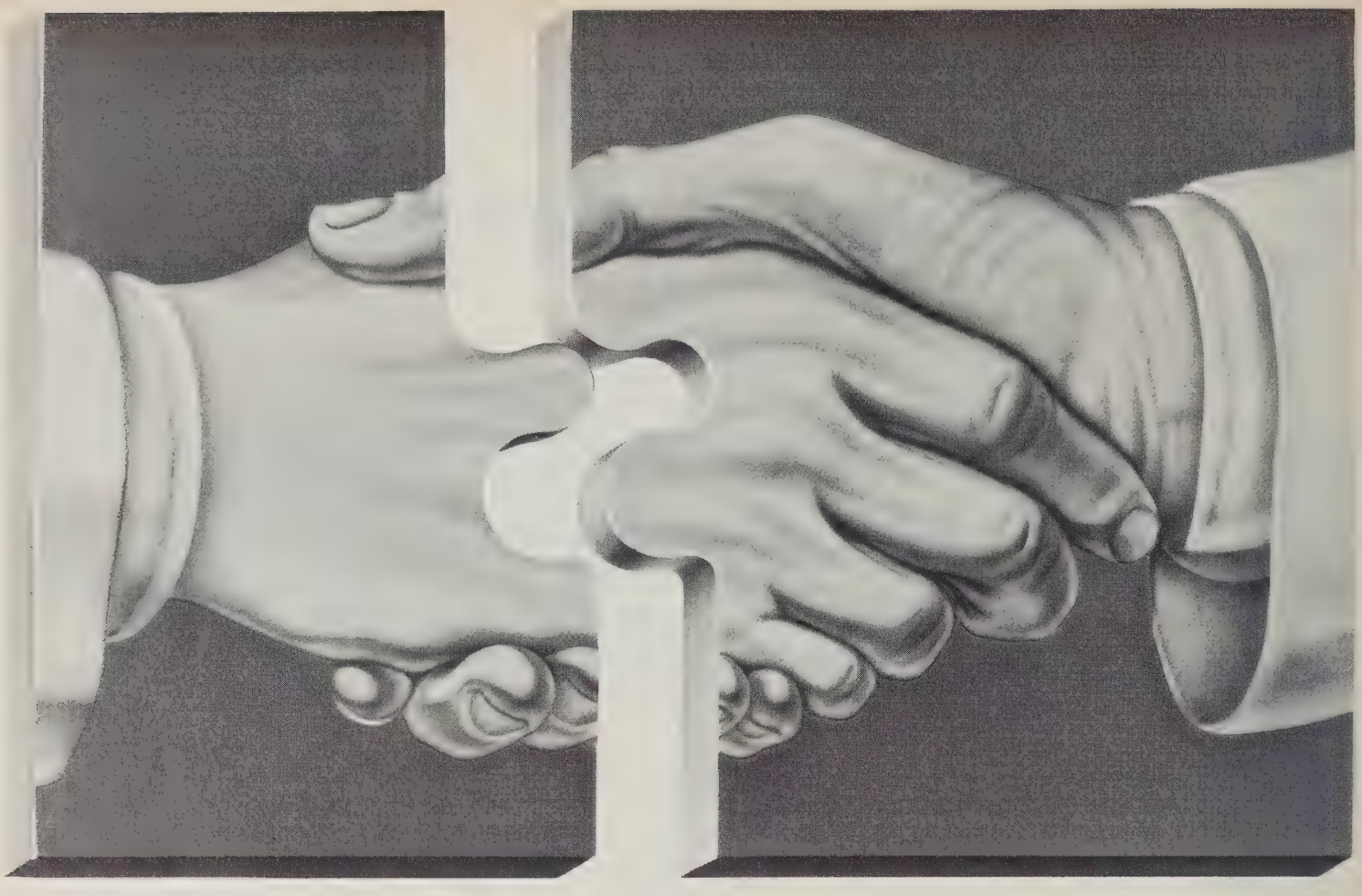

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Announcements

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September 11-18: Academy of General Dentistry's Autumn Foreign Conference, Denmark to Norway. Post-conference optional tour available. Contact: Kathleen O'Donnell (312) 440-4308.

September 17-19: Canadian Association of Orthodontists Annual Scientific Meeting, l'Hôtel, Toronto. Scheduled speakers are Dr. Robert Ricketts and Dr. Donald Woodside. Contact: Catherine Anderson-Brown, Canadian Association of Orthodontists, 2175 Sheppard Avenue East, Suite 110, Willowdale, Ontario, M2J 1W8, (416) 491-2886.

September 17-19: Canadian Academy of Restorative Dentistry Annual Meeting, Hilton Hotel International, Québec City, Québec. Simultaneous translation program, registrations limited. Contact: Dr. Hubert Gaucher, Dental School, Laval University, Québec, Québec, G1K 7P4, (418) 656-5557.

September 17-19: Greater Niagara Frontier Dental Meeting, Buffalo Convention Center, Buffalo, New York. Contact: Dr. David M. Weinman, 777 Hopkins Road, Williamsville, New York, 14221.

September 18-20: The Northern Ontario Dental Association Convention, Pinewood Park Motor Inn, North Bay, Ontario. Contact: Dr. Gaetan Fournier (705) 472-5300.

September 20-24: Orthognathic Seminar, Waitangi Hotel, New Zealand. Contact: The Secretary, Orthodontic Society, New Zealand Dental Association, P.O. Box 872, Tauranga, New Zealand.

September 21-22: British Society for Oral Medicine's 1st International Congress, Royal College of Physicians of London, London, England. Contact: Jennifer Nathan, Congress Secretary, B.S.O.M., International Congress, Dept. of Oral Medicine, The London Hospital Medical College, Turner Street, London, E1 2AD, UK.

September 23-26: Dentechnica Nuremberg 87 – 9th International Congress of Dental Technicians with Specialized Exhibition for Dental Laboratories, Nuremberg Exhibition Centre, Nuremberg, West Germany. Motto: "precision in dental technology is not a matter of chance". Contact: NMA Nürnberger Messe-und, Ausstellungsgesellschaft mbH, Messezentrum, D-8500, Nürnberg 50.

September 23-26: 3rd Latin American Congress of Oral Implantology sponsored by Centro de Implantologia Oral Amilkar Ariza and the International Congress of Oral Implantologists. Cartagena, Columbia. Contact: Margaret M. Jackson, Executive Director, I.C.O.I., P.O. Box 2277, Grand Central Station, New York, New York, 10163. (201) 783-6300.

OCTOBER/OCTOBRE

October 2: Halifax, Nova Scotia. The Canadian Dental Association is sponsoring a Taxation Seminar in the Chateau Halifax. Chaired by Dr. Robert Hicks, Chairman of CDA's Taxation Committee, the seminar will feature many speakers. Contact: Canadian Dental Association, 1815 Alta Vista Dr., Ottawa, Ont. K1G 3Y6, 613-523-1770.

October 4-7: New Zealand Dental Association Meeting, Nelson, New Zealand. Contact: Dr. M. Towers, Conference Secretary, 318 Trafalgar Square, Nelson, New Zealand.

October 7-10: 7th Panhellenic Dental Congress in Pireas, Greece Peace and Friendship Stadium. Contact: Hellenic Dental Association, 38 Themistokleous St., 106 78 Athens, Greece. Tel: 36.13.380 – 36.03.816.

October 10-13: American Dental Association Annual Convention. Las Vegas, Nevada. Contact: ADA office of international affairs, 211 E. Chicago Ave., Chicago, Ill. USA 60611.

October 16-18: International Academy of Oral Medicine and Toxicology, San Diego, California. Symposium on health hazards of dental materials. For more information call (619) 231-1624.

October 19-21: NIH Consensus Development Conference on Geriatric Assessment Methods for Clinical Decisionmaking, Masur Auditorium, Clinical Center, National Institutes of Health, Bethesda, Maryland. Contact: Marti Bernstein, Prospect Associates, 1801 Rockville Pike, Suite 500, Rockville, MD, 20852.

October 21-24: American Academy of Periodontology's 73rd Annual Meeting, Marriott and Fairmont Hotels, Denver, Colorado. Contact: Jean Pierson (312) 787-5518.

October 22-25: The 15th Expodental and the 2nd Expotechnodental, Milan, Italy, at the Milan Fair. Contact: Expodental, 20123 Milano, via Tamburini 2, Italy.

October 23-27: 44th Annual Meeting of the American Institute of Oral Biology, Spa Hotel, Palm Springs, California. Contact: Executive Secretary, P.O. Box 481, South Laguna, California, 92677.

October 24-30: 85th Annual World Dental Congress of the FDI. Buenos Aires, Argentina. Contact: Dr. R.H. Lemme, Congressos Internationales, SA, Moreno 584-9e, Piso (1091) Buenos Aires, Argentina.

October 29–November 1: Canadian Academy of Endodontics Convention, Toronto, Ontario. Contact: Dr. Martin Gelfand, 487 Lawrence Avenue West, Toronto, Ontario, M5M 1C6.

October 30-31: Periodontal Restoration Relationship Symposium, Toronto, Ontario. Clinicians include Dr. Herman Corn, Dr. Myron Nevins and Dr. Kenneth Malament. Contact: Professional Development, The Ontario Dental Association, 234 St. George Street, Toronto, Ontario, M5R 2P1, (416) 922-3900.

NOVEMBER/NOVEMBRE

November 3-6: Clinical course on rehabilitation of edentulism by means of osseointegration, Catholic University Leuven, Belgium. Contact the University at: Faculty of Medicine, Dept. of Periodontology, Capucijnenvoer 7, B-3000 Leuven (Belgium).

November 5-6: The Psychosocial Aspects of Craniofacial Problems; Surgery is not Enough, sponsored by the Humana Craniofacial and Pediatric Neurosurgery Institutes, Weston Hotel Galleria in Dallas, Texas. Contact: Linda Andrews, Humana Advanced Surgical Institutes, 7777 Forest Lane, Dallas, Texas, 75230.

November 5-7: Second District Dental Association of Pennsylvania's Annual Dental conference, Sheraton-Valley Forge Hotel and Convention Center, King of Prussia, Pennsylvania. Speakers will include Dr. Ronald Goldstein and Dr. R. Sheldon Stein. All day programs, table clinics and special programs. Contact: B.J. Dencler, Conference Coordinator, 1039 Louise Lane, Allentown, Pennsylvania, 18103. 215-820-4062.

November 5-9: Education, Attitudes, Motivation and Marketing, a venture trek outdoors seminar at Ohakune. Contact: South Pacific Seminars, 33 Arney Street, Auckland 5, New Zealand.

November 8-11: The Saul Kamen Seminar in the Management and Treatment of the Developmentally Disabled Dental Patient, at the Jewish Institute for Geriatric Care, New Hyde Park, New York. Contact: Ann J. Boehme, Associate Director for Continuing Education, Long Island Jewish Medical Center, New Hyde Park, New York, 11042. (718) 470-8650.

November 11-13: First International Congress on Oral Cancer, Singapore. Special features include Reconstructive and Microvascular Surgery. Speakers include Professor Westbury of Royal Marsden Hospital, U.K. and Professor Hugo Obwegeser of Switzerland. Contact: Dr. N. Ravindranathan, Organizing Secretary, First International Congress in Oral Cancer, Department of Oral and Maxillofacial Surgery, Faculty of Dentistry, National University Hospital, Lower Kent Ridge Road, Singapore, 0511.

November 19, Oahu, **November 20**, Kauai: **An update on Pain Control and Emergency Medicine in Dentistry**, sponsored by the Hawaiian Dental Association. Contact the Continuing Education Committee of the Association at: 1000 Bishop Street, Suite 805, Honolulu, Hawaii, 96813.

November 19-22: XIX National & International Congress of the Dental Association of Mexico in Mexico City. Contact: Federacion Nacional de Colegios de Cirujanos Dentistas, Ezequiel Montes No. 92, Col. Revolucion, Delegacion Cuauhtemoe, 06030 Mexico D.F. 566-61-33.

Novembre 21-25: Festival international du Film et de la Vidéo dentaires–XIèmes Journées dans le cadre du Congrès International de l'Association Dentaire Française. Bulletins d'inscription au concours devront parvenir au Secrétariat avant le 15 février 1988. Renseignements et inscriptions: Dr. M. Dolovici, Secrétaire générale du Festival international du Film et de la Vidéo dentaires, 92 avenue de Wagram, 75017 PARIS.

November 26: Toronto Academy of Dentistry's 50th Annual Winter Clinic, Metropolitan Toronto Convention Centre, 255 Front Street West, Toronto, Ontario. Contact: Academy of Dentistry at (416) 967-5649.

November 27: Practice Management, Royal York Hotel, Toronto. Chuck Sorenson, lecturer. Fee: AGD members $125, non members $200. Contact: Dr. Marotta (416) 735-3310.

JANUARY 1988

January–April: Dental Refresher Program Contact: Continuing Education in Health Sciences UCLA Extension, 10995 Le Conte Avenue, Room 614, Los Angeles, California 90024 (213) 825-9187.

January 8: Dr. Gordon Christensen, "Dentistry Update" presented by the Ottawa Society for the Prevention of Dental Disease at the Talisman Motor Hotel, Ottawa, Ontario. Contact: Dr. D. O'Connor, 225 Metcalfe St., Suite 401, Ottawa, Ontario K2P 1P9.

January 19-23: Hawaii Dental Association's 85th Annual Scientific Session, Hilton Hawaiian Village Hotel, Honolulu, Hawaii. Contact the Association at (808) 536-2135.

January 28-30: Miami Winter Meeting – A Climate for Excellence, Miami, Florida. Table Clinic applications are available. Contact: Dotti DuBreuil, East Coast District Dental Society, 420 South Dixie Highway, Suite 2-E, Coral Gables, Florida, 33146. (305) 667-3647.

January 28 – February 1: 13th Asian Pacific Dental Congress and 42nd IDA Conference, New Delhi, India. Theme Esthetic Dentistry. Contact: Secretariat, C-56, N.D.S.E. – II, New Delhi 110 049.

FEBRUARY 1988

February 10-13: Sports Medicine – For All Practitioners Course in Scottsdale, Arizona sponsored by the American College of Sports Medicine and the Children's Medical Center, Oakland, California. Contact: Stuart Zeman, M.D. Course Chairman, 2999 Regent St. #203, Berkeley, California 94705 U.S.A. (415) 540-8686.

February 19: Scientific Session of the Academy of Dental Materials, Hillenbrand Auditorium, American Dental Association, Chicago, Illinois. A poster session is planned. For information concerning this contact Dr. Evan Greener, Dept. of Biological Materials, Northwestern University Dental School, 311 E. Chicago Avenue, Rm. 10-019, Chicago, Illinois, 60611, USA. For information concerning the meeting phone (312) 908-6887 or (312) 642-9570.

February 26: Course by Dr. Terry Donovan, Contemporary Restorative Dental Materials – The pursuit of excel-

lence. Calgary and District Dental Society. Contact: Dr. John Thompson 13 – 755 Lake Bonavista Drive S.E., Calgary, Alberta T2J 0N3. (403) 271-2777.

MARCH 1988

March 11-15: International Association for Dental Research meeting, Montréal, Québec. Contact: International Association for Dental Research, 1111 14th Street N.W., Suite 1000, Washington, D.C., 20005. (202) 898-1050.

APRIL 1988

April 14-17: California Dental Association's Spring Scientific Session, Anaheim, California. Contact: Cissie Cooper, 818 'K' Street Mall, Post Office Box 13749, Sacramento, CA, 95853-4749, (916) 443-0505, (800) 421-8702.

MAY 1988

May 15-20: 25th Australian Dental Congress, Sydney, Australia. "An international meeting during Australia's bicentennial". A limited number of brochures are available at the CDA, or contact: 25th Australian Dental Congress, P.O. Box 29, Parkville, Victoria, Australia, 3052.

JULY 1988

July 1-3: British Dental Association's Annual Conference, Harrogate International Conference Centre, Harrogate, Yorkshire (UK). "Facing the Future". Contact: Linda Bridges, Conference Office, 64 Wimpole St., London, England. W1M 8AL.

AUGUST 1988

August 7-11: Ninth Congress of the International Association of Dentistry for the Handicapped, Philadelphia, PA. Contact: Public Relations, (215) 576-2303, Abington Memorial Hospital, Abington, PA. 19001.

August 21-24: Canadian Dental Association's Annual Convention, at the Edmonton Convention Centre, Edmonton, Alberta. Contact: Linda Teteruck, Canadian Dental Association, 1815 Alta Vista Dr., Ottawa K1G 3Y6. (613) 523-1770.

August 21-25: New Zealand Dental Association's Biennial Conference, Christchurch, New Zealand. Contact: Dr. E.A. Cope, Conference Secretary, 200 Cashel Street, Christchurch 1, New Zealand.

SEPTEMBER 1988

September 23-25: California Dental Association's Fall Scientific Session, San Francisco, California. Contact: Cissie Cooper, Director, Scientific Sessions, CDA, 818 "K" Street Mall, P.O. Box 13749, Sacramento, California, 95853-4749. (916) 443-0505.

MISCELLANEOUS

The classified section of the Journal of the Canadian Dental Association is especially for you the dentist (not for commercial businesses). Take advantage of this marketplace to give you the results you want.

Amy is 6. Amy Has Arthritis!

30,000 Canadian children under 15 have arthritis. It's *not* just a disease of the elderly. Your support of arthritis research can help kids like Amy get better. Please ... be as generous as you can.

THE ARTHRITIS SOCIETY

Caribbean Cruise
February 6-13, 1988
Continuing Education/Relaxation

Courses:

- Pathogenesis, Diagnosis and Management of Disorders related to the Temporomandibular Joint
- Issues in Preventive Modalities

Approved for Continuing Education Hours

• T.M.J. Component	20 hours
• Preventive Modalities	6 hours

Course Tuition:

• Dentists:	$295.00
• Assistants:	$125.00
• Hygienists:	$125.00
• Office Assistants:	$125.00

For further information on the Caribbean Continuing Education Program/Cruise contact:

Continuing Professional Education
Room 4063 Dentistry/Pharmacy Building
Faculty of Dentistry, University of Alberta
Edmonton, Alberta, Canada T6G 2N8
(403) 432-5023 or 432-8240

Travel Arrangements have been made through *Pacific Travel*. For further travel information call collect:

Jane A. Greasley
Pacific Travel Corp.
Main Floor, 9940 - 106 Street
Edmonton, Alberta, Canada T5K 2N2
(403) 428-8251

University of Alberta
Edmonton T6G 2E1

CANADIAN DENTAL ASSOCIATION

TAXATION SEMINAR

OCTOBER 2, 1987

CHATEAU HALIFAX • HALIFAX, NOVA SCOTIA

Dr. Robert N. Hicks of West Vancouver, Chairman of the CDA Taxation Committee, will chair a CDA Taxation Seminar in Halifax, Nova Scotia on Friday, October 2, 1987.

Presenters will include tax lawyers and accountants knowledgeable in the area of tax information as it applies to the dentist's financial activity in both practice and personal environments.

PROGRAM OUTLINE

- ☐ Tax Reform
  - Sales Tax
  - The Value Added Tax
  - Changes to personal exemptions and other allowable deductions
- ☐ Tax Implications in Financial Planning
- ☐ Tax Shelter Investing
- ☐ Income Splitting
- ☐ Tax Implications in Estate Planning
- ☐ Update on the Use of Corporations
  (Professional Management Companies, Personal Service Corporations)

The Minister of Finance tabled a White Paper on Tax Reform on June 18, 1987. The CDA, in consultation with representatives from the Canadian Medical Association, the Canadian Bar Association and the Canadian Institute of Chartered Accountants, is reviewing the impact of this document and preparing submissions to Senate and House Committees in opposition to any inequitable treatment of the dental health professional or any negative impact on the overall cost of delivery of oral health care to Canadians.

The timing of this Seminar is such that it will afford an opportunity to access current information and advice in this most important area.

REGISTER NOW TO RESERVE YOUR PLACE

REGISTRATION FORM

Complete and Return and Cheques Payable to:
Canadian Dental Association
1815 Alta Vista Drive, Ottawa, Ont. K1G 3Y6

Name _____

Address _____ City _____

Province _____ Postal Code _____ Telephone _____

Payment:

- ☐ Cheque Enclosed
- ☐ Visa
- ☐ MasterCard

Expiry Date _____

Signature _____

Fees:

CDA Member: $100.00
Spouse or personnel accompanying a member: $75.00
Non-member: $150.00
(Including unaccompanied spouse or personnel)

(Includes Luncheon and Refreshment Breaks)

Accommodation:

Please call The Chateau Halifax (902-425-6700) directly, using the CDA name for prearranged preferential rates.
$80.00 single • $90.00 double

Cancellation Policy – Registration:

Cancellation before Sept. 1 – full refund.
Cancellation after Sept. 1 – 75% refund.
Cancellation after Sept. 14 – no refund.

L'ASSOCIATION DENTAIRE CANADIENNE

SÉMINAIRE SUR LES QUESTIONS FISCALES

LE 2 OCTOBRE 1987

CHÂTEAU HALIFAX • HALIFAX, NOUVELLE-ÉCOSSE

Le vendredi 2 octobre 1987, le Dr Robert N. Hicks, de Vancouver Ouest, animera un séminaire sur les questions fiscales à Halifax, en Nouvelle-Écosse.

Le Dr Hicks est président du Comité des questions fiscales de l'ADC. Il sera entouré d'avocats et de conseillers fiscaux qui s'intéressent particulièrement à la situation des praticiens dentaires, tant dans l'exercice de leur profession que dans leur vie personnelle.

PROGRAMME

- ☐ La réforme fiscale
  - • la taxe de vente
  - • la taxe sur la valeur ajoutée
  - • les changements apportés aux exemptions personnelles et aux autres déductions permises
- ☐ Les conséquences fiscales de la planification financière
- ☐ L'investissement dans des abris fiscaux
- ☐ Les conséquences fiscales de la planification successorale
- ☐ Le fractionnement des revenus
- ☐ Mise à jour touchant l'usage des corporations
  (sociétés de gestion professionnelle et sociétés de prestation de services personnels)

Le 18 juin 1987, le ministre des Finances a déposé à la Chambre des Communes un livre blanc sur la réforme fiscale. De concert avec l'Association médicale canadienne, l'Association du bareau canadien et l'Institut canadien des comptables agréés, l'ADC étudie les conséquences de ce livre blanc et se prépare à présenter aux comités du Sénat et de la Chambre des objections à tout traitement inéquitable qui pourrait toucher les professionnels dentaires ou à tout point de la réforme qui pourrait être défavorable à la prestation générale des services dentaires aux Canadiens.

Le séminaire a été fixé à une date qui permettra d'évaluer les renseignements en main et les conseils des experts.

POUR VOUS ASSURER UNE PLACE, INSCRIVEZ-VOUS DÈS MAINTENANT

DEMANDE D'INSCRIPTION

Veuillez remplir cette demande et la retourner et les chèques doivent être libellés à:
L'Association dentaire canadienne
1815, promenade Alta Vista, Ottawa, Ontario K1G 3Y6

Nom

Adresse Ville

Province Code postal Téléphone

Mode de paiement:

☐ chèque

☐ VISA

☐ MasterCard

Date d'expiration

Signature

Frais:

Membres de l'ADC: 100$
Conjoint ou employé accompagnant un membre: 75$
Autres personnes: 150$
(y compris les conjoints ou les employés non accompagnés)

(Ces frais comprennent le déjeuner et les rafraîchissements servis aux pauses)

Hébergement:

Veuillez téléphoner personnellement au Château Halifax (902-425-6700) en demandant les tarifs spéciaux consentis à l'ADC:
une personne: 80$ • deux personnes: 90$

Annulations:

avant le 1er septembre: tous les frais
après le 1er septembre: 75 pour cent des frais
après le 14 septembre: aucuns frais

CANADIAN DENTAL ASSOCIATION

DENTAL HEALTH PUBLICATIONS

PAMPHLETS	MEMBER PRICE/100	NON-MEM. PRICE/100	QUANTITY REQUIRED	CODE NO.	TOTAL COST
Are you missing a few teeth?	$10.00	$15.00	_____	1	$_____
Dental X-Rays Show Hidden Problems	11.00	16.50	_____	2	_____
Care Following Minor Oral Surgery	12.00	18.00	_____	3	_____
Those Important Baby Teeth	9.00	13.50	_____	6	_____
Prepaid Dental Insurance	20.00	30.00	_____	7	_____
Facts Favour Fluoridation	17.00	25.50	_____	10	_____
Do You Need Complete Dentures?	15.00	22.50	_____	12	_____
Eating Properly for Better Dental Health	13.00	19.50	_____	32	_____
Dangerous in Bed (bilingual – (baby bottle syndrome)	9.00	13.50	_____	34	_____
Do You Have Periodontal Disease?	12.00	18.00	_____	35	_____
Protect That Mouth! (face and mouth guards)	12.00	18.00	_____	37	_____
Save That Tooth – Get to the Root of the Problem (endodontics)	9.00	13.50	_____	39	_____
Do You Smoke? Have Your Mouth Checked	16.00	24.00	_____	46	_____
Do It Yourself Oral Hygiene	13.00	19.50	_____	47	_____
TMJ Disorder	10.00	15.00	_____	52	_____
CAREER INFORMATION					
Choosing a Career . . . Dentistry	.40 ea.	.60 ea.	_____	41	_____
POSTERS					
Dental Care is no Laughing Matter (photograph)	1.00 ea.	1.50 ea.	_____	1-E	_____
Teeth – Think About Keeping Them in Their Place	1.00 ea.	1.50 ea.	_____	2-E	_____
Dental Care is No Laughing Matter (illustration)	1.00 ea.	1.50 ea.	_____	3-E	_____
Pamphlet Holder	1 free per member	7.00 ea.	_____	98	_____

PLEASE ENCLOSE CHEQUE OR MONEY ORDER (NO CASH) WITH THIS ORDER FORM

AMOUNT ENCLOSED $ _____

ADDRESS ALL REQUESTS TO: **CDA Order Section, 1815 Alta Vista Drive, Ottawa, Ontario K1G 3Y6**

NAME: _____

ADDRESS: _____

CITY: _____ PROVINCE: _____ POSTAL CODE: _____

CDA MEMBERSHIP NUMBER: _____

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Marketplace

OFFICES AND PRACTICES

YUKON: FOR SALE – Two operatories available within a very preventive oriented family practice, equipped with both a Ceph and Panorex. Full time hygienist on staff and we also have the services of an oral surgeon, periodontist and orthodontist visiting on a regular basis. Excellent patient flow and an ideal location for the outdoor enthusiast. Further details will be provided upon request. Please contact Dr. R.E. Pearson (403) 668-3152

BRITISH COLUMBIA—Kelowna: Practice for sale or lease. Two fully equipped operatories. Willing to negotiate easy terms with very little capital outlay. Any questions give me a call. Dr. Stan Dovich (604) 765-2938 or (306) 236-3655.

BRITISH COLUMBIA – Nanaimo: 1480 sq. ft. practice in large enclosed mall. Two years old and extensively equipped with quality apparatus (e.g. OP 10, Kavo, ADEC). Two operatories completed with three others roughed in. Phenomenal new patient flow. Very tastefully decorated with quality materials. Priced for quick sale. If you wish to practice in an area with one of the finest climates in Canada (and with the most affordable real estate), yet only a 1 hour drive from Victoria and 1 1/2 hours by ferry from Vancouver, then phone Dr. Robert Scott at (604) 756-1300.

BRITISH COLUMBIA—Sunshine Coast: Well established private family practice in growing recreational/mill town on sea and lake. Leaving to begin semi-retirement. My great staff wants the practice to continue with caring dentist. Info package – Dr. Marv Olson, 4662 Marine Ave., Powell River, B.C. V8A 2L1 Phone: (604) 485-2851 or 725-3727.

BRITISH COLUMBIA—Vancouver: Family practice in modern med-dent building on Broadway. Beautiful view of city. 500 sq. ft. one chair office – possibly two. Ideal for semi-retirement. General anaesthesia facilities. Phone (604) 873-5717.

BRITISH COLUMBIA—Vancouver: PEDIATRIC PRACTICE For Sale. Excellent opportunity for ambitious pediatric dentist. Well established, busy pediatric practice in non-fluoridated area with active recall system. Diversified practice with large referral base and opportunity for hospital dentistry. Send inquiries to 243-1755 Robson Street, Vancouver, B.C. V6G 1C9.

BRITISH COLUMBIA—Vancouver: LEASEHOLD IMPROVEMENTS in a modern 1600 sq. feet dental office in like-new condition. Operatories plumbed for up to 5 chairs; extensive millwork, spacious reception area, business office, private office, and comfortable staff room. Reasonable rent in a well-constructed 7 year-old concrete building. Available immediately and priced to sell. Contact Dr. Christine Mills at (604) 261-8168

ALBERTA: Owner returning to school Fall '87 means an excellent financial opportunity exists to acquire a well established, modern practice in a progressive rural community. Fully staffed and equipped, available immediately. NO reasonable OFFER REFUSED with terms to suit purchaser. Call collect (403) Bus – 723-6623, Home – 723-2882.

ALBERTA: PRACTICE FOR SALE – 4 ops, pan, ceph available, 1800 sq. ft. Excellent lease for space with option to purchase. Practice is four years old. High annual gross. Hygienist will stay if desired. Buyer could associate for a while and see if practice was to liking. Also 10 yr. old 90 KVP. x-ray for sale for satellite or ceph installation. Owner moving to join relative in another city. Call (403) 553-4782.

SASKATCHEWAN: PRACTICE FOR SALE – Fully modern equipped Pelton & Crane 5 operatory preventive oriented practice doing all aspects of dentistry. Owner wishes to return to school but will remain for 1 year after sale for transitional purposes. Phone (306) 384-7191 (office) or (306) 955-2234 (home).

MANITOBA—Swan River: Progressive, established family practice for sale in prosperous agricultural community near parkland and recreational opportunities. Restorative dental hygienist. 3 ops with modern equipment. Good recall. Owner relocating. Please reply in confidence to Dr. D. Wilkie, Box 1000, Swan River, Manitoba, R0C 1Z0 or phone (204) 734-4701 (evenings).

ONTARIO – For sale – Three dental practices with two that net six figures individually. Could be purchased separately or together. Quality, family oriented practices. Super deal for a new graduate or an experienced operator. Contact CDA Box 2376.

ONTARIO–Burlington: Well established quality family practice. 865 sq. ft. on ground floor of professional building. Willing to associate to facilitate transfer. May purchase 1/8 share of building or lease with option to buy. CDA Box 2374 or phone (416) 634-5412 evenings.

ONTARIO–Southwest: Busy, established family practice for sale in small town. Modern 30' × 50' building, air conditioned, two well-equipped operatories. Reception and business areas, lab, kitchen, private office and staff room. Well-trained staff available. Excellent opportunity. Please call (416) 281-0302.

ONTARIO–Sudbury district: For sale six year old family practice, one operatory, lab and reception area. Low overhead, good as satellite, underserviced area grant available. Will consider an associate. Phone: 705-437-3821 or 705-898-2108 or 416-775-5379.

ONTARIO: Pediatric Dental practice, in North East (central) Toronto, available for associate, partner or buy out. Present owner will remain, in whatever capacity desired, for as long as mutually agreeable. Very successful (financially and professionally) progressive practice – flexible financing. Please write or call Dr. Marvin Klotz, Suite 403, 4800 Leslie St., Willowdale, Ontario, M2J 2K9. (416) 493-2211.

QUÉBEC–Waswanipi: The James Bay Cree are requesting the services of a permanent dentist. Minimum term: one year. State-of-the-art facilities await the right person who seeks a challenge. Excellent salary and conditions. Please contact Dr. L.R. Shaw, Module du Nord Québecois, 980 Guy Street, Bureau 300 A, Montréal, Québec, H3H 2K3 (514) 932-9047.

NOVA SCOTIA–Halifax–Established downtown general practice for sale, located in central business district. Sale includes share of modern equipment, sundries, and term lease of office space. Practice includes a large recall clientele, (mostly adult). Suitable for an experienced operator or two graduates. Apply to Box CDA 2327.

TRINIDAD–West Indies: For sale, very high quality practice established 1952. Many patients with perio awareness. Five fully equipped operatories, 3 X-ray units. Attractive price. Available immediately. Write or phone: Margaret, 2 Lenclos Road, St. Ann's Avenue, Port of Spain, Trinidad, West Indies (809) 627-5008.

ASSOCIATESHIP AVAILABLE

NORTHWEST TERRITORIES: Excellent opportunity for associateship in Yellowknife in modern state of the art dental clinic. Excellent support staff and good recreational facilities. Emphasis on good quality dentistry and we require dedicated efficient dentist concerned with patient care and management. Excellent remuneration and arctic travel available. Please reply to CDA Box No. 2367.

BRITISH COLUMBIA: Associateship leading to purchase. Well established Pedodontic Practice, 1500 square foot, 7 chair, downtown office on the north side of a superbly located building. Location was selected because of excellent view of mountains and ocean. Inquiries: Dr. G.M. Jinks, DDS, FRCD, 301-1701 W. Broadway, VANCOUVER, B.C., V6J 1Y3, phone – (604) 731-4608 Mon. - Thurs.

BRITISH COLUMBIA: Help! Busy mall office requires associate (partnership preferable) to take over 1/3 of existing office practice. Current associate leaving; remaining two dentists too busy to handle it all. This modern preventive office is 15 minutes from downtown Vancouver. Please contact Dr. Dave Kapusianyk (604) 276-8134.

BRITISH COLUMBIA–Cresta Dental Centres: Excellent associateship or practice purchase opportunities available immediately. VICTORIA – Retail dental centre established in high residential area. New patients average 100 per month. Modern 6 operatory clinic with refreshing and inviting decor. Computerized. Very high gross. Ideal for 2 dentists or 1 exceptionally high producer. Maximum potential is still to be achieved, 10 year lease. PRINCE GEORGE – Retail dental centre in largest shopping mall in Central British Columbia. High new patient flow well run recall system with efficient and effective management. High gross; approximately 80% insurance; 10 year lease. Office decor modern and inviting, new equipment. Phone: (604) 382-7603 or (604) 381-6433.

BRITISH COLUMBIA–Delta (Vancouver suburb): New busy modern family oriented practice looking for associate who would become equal partner. Alternate shared hours would particularly suit female with family priorities. Contact: Dr. Susan Braun, 8300 112th Street, Delta, B.C., V4C 4W8. Telephone (604) 596-3384.

BRITISH COLUMBIA: Associateship Available – Associate required immediately in busy general quality practice in Lillooet, B.C. by the Fraser river. This is an excellent opportunity for the right individual in a pleasant, enjoyable environment for full or part time at a generous percentage split. Enthusiastic, quality conscious individuals are asked to contact: Dr. Barry Goldberg or Rita McDonald at Box 188, Lillooet, B.C. V0K 1V0 (phone) (604) 256-4616.

BRITISH COLUMBIA–ASSOCIATESHIP AVAILABLE & HYGIENIST REQUIRED in Prince George, B.C. as part of busy well established practice – full patient load immediately. High annual gross. Great outdoor recreation opportunities. Contact: Dr. D. Kjorven, #201 – 1531 8th Ave., Prince George, B.C. V2L 3R3, 604-564-7337 (office), 562-6834 (home).

ALBERTA: Associateship or salaried position. Best opportunity in the country – Medicine Hat, Alberta – to join modern group dental clinic with 3 doctors and 3 hygienists. Latest equipment. Available immediately. Flexible hours. Phone Dr. Cliff Hrankowski (403) 526-8694 or Dr. Elwin Kershaw (403) 526-0772 (Office: (403) 526-0777).

ALBERTA: Associate wanted for full-scope active oral and maxillofacial surgery practice in Calgary, Alberta. Candidate must be trained in all aspects of the specialty and eligible for specialty licensure in the province of Alberta. Please send CV and picture to CDA Box no. 2371.

ALBERTA: 2 Associates needed immediately in Red Deer and Calgary. Red Deer office is located in Parkland Mall – the largest mall in Red Deer. A beautiful office

in prime location with high earning potential. Calgary office is in MacLeod mall in south Calgary. A great location with excellent earning potential. Both Associateships have opportunity for future partnership. Contact Dr. Bob Ronaghan (403) 235-3888 or Dr. Bill Wilson (403) 258-3444.

ALBERTA: OWN YOUR OWN PRACTICE – Looking for a fast working associate to help with a 2 office, single doctor practice, that has grown too big to handle. Practices are located in Lethbridge area of Southern Alberta, are 5 years old and within one hour travelling time of each other. New building being built for one practice; all equipment state of the art. Either practice for sale after successful associateship established. Contact Dr. Harold Elke: Tue, Thu, Fri (403) 732-5621; Mon, Wed, (403) 647-2482.

ALBERTA—Edmonton: ASSOCIATE WANTED – In well-established extended-hour practice, with opportunity for purchase in future. Excellent opportunity for an ambitious quality-oriented practitioner. Reply to CDA Box 2369.

ALBERTA—Edmonton: High gross practice requires associate. Partner is leaving city. The office is fully equipped and very cheerful with extensive large windows. Contact Dr. Azarko at 14938 Stony Plain Rd. (403) 483-7080.

ONTARIO—Brampton: Associateship/Partnership. Full-time associate required to take over existing busy practice. Long term arrangement, leading to partnership. Call Dr. Nick Wheeler or Dr. Ken Lumb (416) 454-4010.

ONTARIO—Ottawa: Associate/Partnership: Associate required for a busy, quality-oriented family practice. Possibility of future partnership. Contact Dr. Dorothy Marko (613) 225-9201 days, (613) 836-6027 evenings.

ONTARIO: Associate required for shopping centre location in growing Ottawa-West. Join a caring, progressive group with in-office periodontic, orthodontic and oral surgery specialists as well as general family dentistry. Excellent opportunity to prosper and grow. Contact Susann at (613) 592-2900.

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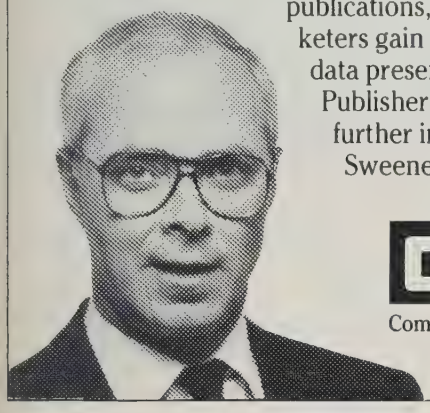

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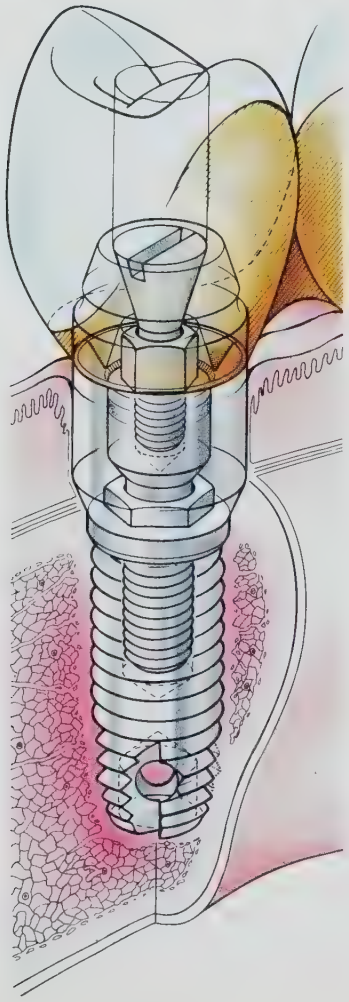

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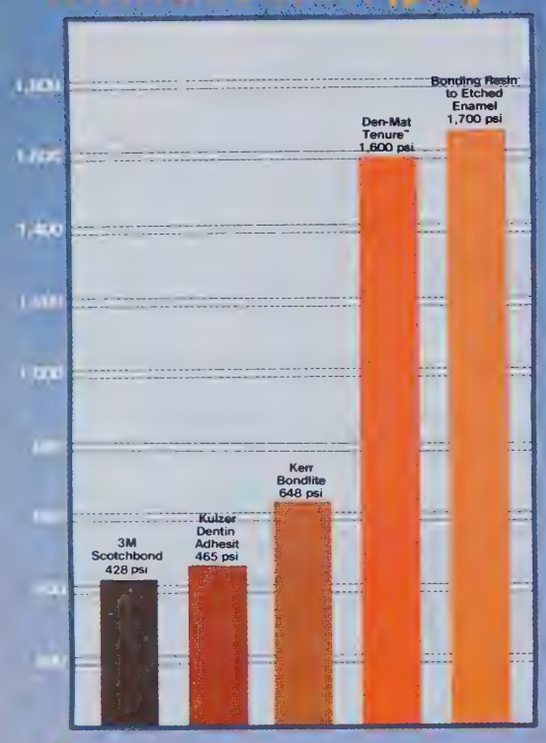

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A NEW NATIONAL HEALTH PERSPECTIVE

The Minister of Health and Welfare Canada has asked his Department to review current Canadian programs in the area of Health Promotion and Disease Prevention. His Deputy Minister, Dr. Maureen Law, in an address to the Canadian Dental Association Board of Governors on April 3, 1987, expanded upon the Minister's directives with special emphasis on the role of the dental profession.

National policy is aiming at a new perspective on health. The position paper on this new perspective is published in this issue.

The limited view of equating health with the absence of disease is to be replaced, in the words of the Deputy Minister, with "a more positive outlook that expresses health in terms of the degree to which people can realize their aspirations, cope with their environment, and reshape their living conditions to better suit their needs".

The principal goals of the Minister's health promotion strategy, can be summarized as the following:

1) The strengthening of self-care practices;
2) The encouragement of self-help and mutual aid practice; and,
3) The creation of an environment for health by improvement in living and working conditions, particularly for the less fortunate, whose opportunities are compromised by gender, race, age, geographical location, or economic status.

The Health Minister is clearly trying to stimulate discussion and debate on his views, as a method of fleshing out the strategies that might ultimately contribute to this new national attitude.

It is essential that the CDA respond to the Minister's challenge. This response must firstly recognize that, in spite of the enormous strides already made, there are still significant voids in the Canadian health system. On a national basis, a number of groups have had great difficulty accessing Canada's excellent health care systems. This of course, refers to individuals and groups with lower incomes, our senior citizens and our native Canadians.

We as dentists should not be complacent in reviewing our role in health promotion simply because there is such a lack of information in many vital areas of dental intervention. Dentistry does not have a good handle on the problems of the aging and the shifting of population demographics. However, organized dentistry at all levels is devoting more and more of its energy to geriatric dentistry, and the problems of the aged and institutionalized patient. As well, Canada's educational institutions are becoming much more active in this area. On a national level, CDA is attempting to deal with the many complex issues associated with improved delivery of dental services to native Canadians. Organized dentistry has been actively monitoring the different delivery systems that are evolving which will deliver care to those currently denied access. These higher aims must always be sought and finally achieved in a manner that ensures the highest quality of care to the Canadian public.

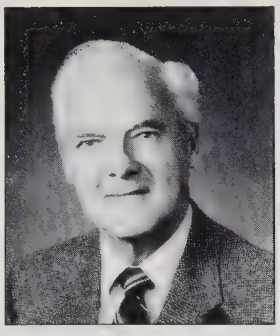
Let us look at what we have achieved in the past. The facts tell us that our profession has an enviable track record in working to promote more positive attitudes towards optimal health. Dentistry is the one health profession that has concentrated its efforts and resources heavily in the area of prevention. The dramatic changes that have taken place in the national pattern of dental disease are testimony to its success.

Dentistry is also the one national health organization that is concentrating resources heavily in the area the Minister is making a priority: health promotion. We have done all of this without reliance on government for financial support. The Dental Awareness Program has been singled out on a number of occasions as a model in the area of health promotion. Although there still is a lot to learn, our profession still has a lot to offer our colleagues in the other health disciplines.

The dental profession strongly promotes good dental health as an integral part of any overall health strategy. No future position paper dealing with national health issues can be complete, without proper emphasis on the role that good dental health plays in the overall quality of life for Canadians. Indeed, we must continue our political and educational efforts to convince all Canadians, and all levels of government, that dental health should be "Good for Life". We should look forward to working with the Minister and his Department in helping to realize our joint goals.

Dr. Ron J. Markey
President, CDA
Vancouver, B.C.

All statements of opinion and supposed fact are published on the authority of the author who submits them and do not necessarily express the views of the Canadian Dental Association, unless such statements or opinions have been adopted by the Association. The editor reserves the right to edit all copy submitted to the Journal.



HELP CFDE CELEBRATE ITS 25TH ANNIVERSARY!

It's hard to believe (even for those who have been around as long as I have) that it has been 25 years since the Canadian Fund for Dental Education was founded. So many different projects and individuals have been supported over the last quarter century. So many dentists, hygienists, representatives of dental industry, and others have donated. In total, over $2.3 million has been raised to support dentistry in Canada, in 25 years.

I think that's a pretty good record. But I know we can do even better — with your help. Many of you contribute regularly to CFDE and don't need to be convinced of the worthiness of our cause. So, let me address those of you who may be skeptical, or perhaps have just never thought of contributing to the Fund.

CFDE works to support dental awareness, education and research in Canada. That means that everyone benefits — the dentist, the student, the auxiliary, the industry and, ultimately, the general public.

To show you the value of this support, I would like to quote a few letters we have received from individuals who have benefitted from CFDE funds.

In one of the many letters received expressing appreciation for CFDE's support of the Association of Canadian Faculties of Dentistry Summer Teaching and Management Institute, the writer indicates that, "I am convinced that through the Institute the level of teaching and hence the level of excellence in the dental profession will be greatly enhanced." Another states, "I have been teaching now in dentistry for eight years, yet I learned more this past nine days than I'd learned up to that point."

According to one of the participants at the Canadian Dental Hygienists' Association's workshop entitled "Let's All Learn", it was "ideal in creating a networking among the hygienists who would most likely be very active in facilitating continued learning experiences."

From one of this year's fellowship recipients: "I feel no doubts about the importance of research to dentistry and to dental education, and I feel very enthused about participating in, and contributing to both of these through my own research."

In addition to our "in memoriam" and "tribute" gifts, and bequests, some of our contributors have found an innovative way of donating by having their honoraria for speaking engagements forwarded to CFDE. Most donors, however, prefer to respond to a solicitation letter, which we send out periodically. Although you may have heard from us earlier this year in our direct mail campaign or our lottery appeal, our major request for support, of course, is in October — CFDE Month. This is our last appeal to every dentist in Canada to help us meet our financial projections before year-end. This year's goal is $87,000, up from the $80,762 received in 1986. I know we can meet and even exceed this goal with your support.

I invite all of you to invest in the future of dentistry in Canada. Help CFDE celebrate its 25th Anniversary and make 1987 our best year ever!

J. Fred Reid, DDS, FICD
Chairman
CFDE Board of Trustees

HEALTH MINISTER EPP GRANTS EXCLUSIVE CDA INTERVIEW

During the CDA/ODQ conjoint Convention/les Journées Dentaires (1987) in Montreal, National Health and Welfare Minister the Honourable Jake Epp, granted an exclusive interview for this Journal. He discussed various aspects of the proposed national perspective on health promotion, and the emphasis on oral health within that framework.

He was interviewed by Dr. Ron Markey, of Vancouver, B.C., then President-elect of the Canadian Dental Association. The report of the interview follows.

Dr. Markey: A brief comment about the origins of the strategy you presented in your discussion document *"Achieving Health for All: A Framework For Health Promotion"*. When you first presented this concept, it was, well, not revolutionary, but certainly a totally new direction for a federal health minister to take in terms of establishing national health priorities. How did it actually originate, and how did you come to make it a high priority?

Health Minister, Jake Epp: Well first of all, I think that in Canada for some period of time we have focused on illness and a curative approach to health. And as I mentioned in a recent speech, and as all of us recognize, our commitment to treat the sick will remain. If a person is ill or in an accident, the health care system will provide services to that person. That's natural and that's the way it should be. But I think all of us recognize that society is changing and that we now have to take more responsibility for promoting health – not only treating illnesses that are easily discernible but actively working to prevent disease.

One of the factors that led us to this approach was an examination of health trends, strategies and goals. We began with the understanding that a policy to promote health must work toward three broad goals: enhanced self-care, support to mutual aid and the creation of healthy environments. We also looked at what other countries are doing to tackle health problems. A few countries use a disease-specific, goal-oriented approach. For example, there might be X number of cases of an illness in the country, such as cancer, or to be more specific, let's say breast cancer. That country would then set a five year goal to reduce the incidence of cases to something less than that number. Other countries do not take that approach. It was suggested to us that if we did that we would have difficulty defending our program. However, I think that if you don't set goals you won't achieve any goals. That was the first point.

The second one was that we wanted to take a holistic approach that recognizes the total health needs of the public and their participation in defining those needs. I think Canadians now take a much more serious approach to health; they're much more health conscious. That doesn't say we all necessarily live that way, but we know what is good for us and what might harm us.

The holistic approach leads me directly to the Dental Association's activities. Effective dental hygiene, and dental care have long been promoted by the Canadian Dental Association. I remember as a teacher promoting dental hygiene in health class. But I don't think the message was as coordinated as it is now.

So we have been working at our health promotion strategy for some period of time. There is the danger that we could be seen as telling people how to live their lives, but I can say this: the reception that health promotion and disease prevention has had in Canada with a number of initiatives that we've taken, has been very gratifying. I think quite frankly that the government was lagging behind the public.

Dr. Markey: It's interesting, one of the bolder aspects of the plan, and you alluded to this in your address to the Canadian Dental Association, is the fact that the political payoff in a sense is a very intangible thing. You're going to be setting goals but there is no way that you can actually guarantee you're going to meet any specific objectives. Was this something that was difficult for your Department to deal with in terms of coming up with the strategy and fleshing it out a little bit for you initially?

Mr. Epp: I don't think it was a problem within the Department as much as it was convincing Cabinet. It wasn't that Cabinet was negative, but when I talk about Government, Cabinet, the bureaucracy – there are cost benefits that they always want to see, and justifiably so. We're spending public money.

What we found out from Canadians was that a lot of health promotion was already taking place – through the professional and voluntary organizations. What Government can give to that movement is some leadership, and I think, some impetus. But, I must say, I think we came into what was already a social revolution among at least some Canadians, and we gave it some focus. Possibly the best example of that is the ParticipACTION program. While ParticipACTION is a relatively small organization it has had some innovative advertising. Most Canadians remember their most popular campaign: "Is the average Canadian as physically fit as a sixty year old Swede?" Well I can tell you quite frankly, yes, today we are. And I think ParticipACTION has to some degree helped.

That doesn't say that we don't still have a long way to go. People are now becoming more aware of diet. I think they knew about the smoking risks: they might not have appreciated the risks, but they knew about the risks. Now Canadians not only

smoke less, they actively support initiatives to ban smoking in public places and the workplace. From a dental point of view, there was great controversy, as you know, when fluoridation was first being introduced. Today it is an accepted fact of disease prevention. While these things take a little bit of time, overall Canadians respond, I think, fairly positively to these kinds of approaches. And, although results are sometimes difficult to quantify, there is no doubt in my mind that these approaches lead to improved health.

Dr. Markey: Just following on in terms of the strategy and the discussion that's been initiated, how do you feel about the response you get from various groups and, I would have to say, with particular emphasis on the primary delivery groups in the country? For example, not only from our group, but the Canadian Medical Association?

Mr. Epp: The response has been very positive, both from the Canadian Dental Association and the Canadian Medical Association as well as from the nursing profession and other professional groups and individuals. And the reason they have been positive is because they were already in the business of health promotion and disease prevention.

You have been preaching that message for a long time. You might have been thinking that you were a voice in the wilderness and that some of us weren't listening. For example, on some health issues, the Canadian Medical Association was on record 15-20 years before I came forward with a health promotion emphasis. In fact, when I announced the non-smoking strategy somebody came to me and said, ''twenty years of my life have just passed by me this day, because for 20 years I've been in it as part of the Canadian Medical Association''. Similarly the Canadian Dental Association has been involved over the years. For example, I remember, and I think all of us do, the campaigns made by your Association in terms of how to take care of one's teeth, oral hygiene, and so forth.

Dr. Markey: Obviously, you've been encouraged by the level of debate generated. I think it comes through not only in your answers in the last few minutes, but during the talk that you gave today, and also during some of the discussions we've had with other people in your Department. In getting a little more specific with regard to the strategies, one of the problems we have as an organization, is when we begin to look at the whole research initiative. I know that we ourselves have tremendous voids in our information bank when it comes to understanding some of the demographics, some of the problems facing our geriatric and institutionalized patients. In some other areas, I believe we have a better grasp, where we're working towards concrete objectives in areas involving delivery systems. The native and Inuit Canadian populations are good examples. How is this going to be addressed? You've talked about a research strategy. Have there been further developments, and how do you see different groups being able to respond and take advantage of whatever funding might be available to pursue this strategy?

Mr. Epp: Well, first of all, as you know, the Canadian Dental Association's members are able to access federal research funds, through two programs; the MRC and the NHRDP. Since 1980, the MRC has granted some $16 million dollars for dental research projects, and the NHRDP some $1.2 million.

I'd like to see an expansion of both these programs — particularly in the role of NHRDP in dental research. In fact, the NHRDP is scheduled to announce a special solicitation for research in this area, and it will address some of the voids you mentioned, like the dental care needs of the aging population.

This is one source of research support the Canadian Dental Association could look to. Secondly, your Association could look to the MRC. While the MRC will, I believe, always support basic research and so they should — I think the Council has also demonstrated its capability to support applied research. It also has experience in joint funding of research projects with the private and voluntary sectors. Your Association may wish to explore with the Council the possibility of joint funding of some dental research projects.

Last year the Government said to the MRC that it would match up to ten million dollars in the first year, any private monies given to basic health research. Private and voluntary sector support for biomedical research exceeded 27 million dollars last year. We can only match $10 million this year, but I believe there is a lot of interest in the private sector to have some directed research. Maybe that's another field we could explore together.

The health promotion programs that we have introduced also have a research component, but not so as yet in the dental sciences. Those, I think, are the discussions we should have with CDA. In the other programs that we've brought forward, we have had a research component in each case. I don't think that you can have health promotion programs without research, and appropriate data bases. In some cases these data are not yet available. So, I think that this will have to be explored further with CDA.

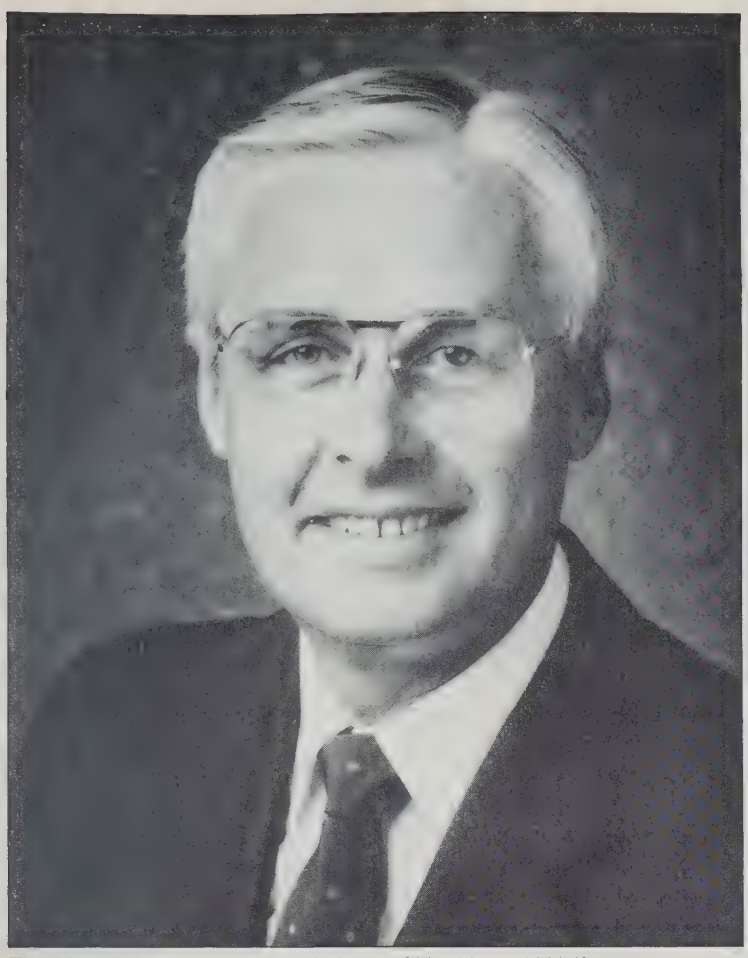
Dr. Markey: I think those comments are interesting because certainly some of the areas you've discussed are areas that we will be pursuing with your Department. We've actually made official presentations in a couple of situations where we lacked adequate information. We just need a lot more and better information in all areas.

When one generates excitement within different groups with a new concept such as health promotion, the next step, other than the response from individual groups, is what type of forum, or fora would be available on a national level for the different groups with varying experiences in this area to pool their talents and begin to come up with future thinking in this area. What types of fora do you visualize for national discussion, and as an obvious follow up to that, what specific opportunities would professions like ours have to contribute to the process?

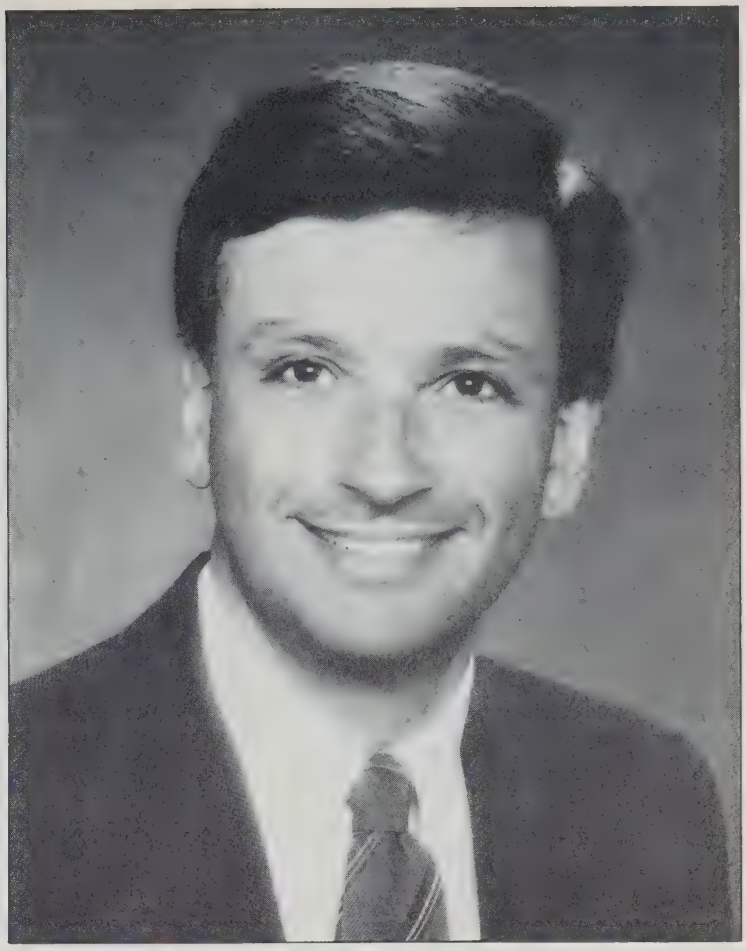
Mr. Epp: Well I think that's a very important point that you make. I know that in the past, the Canadian Dental Association has felt that it has not been either adequately consulted or involved, and I fully recognize that. There have been some other health care providers that have had similar feelings. We've been trying to change that by ensuring that your representatives have more direct access, both to the Minister's office and to the management of the department at the Deputy Minister or the ADM level. I think we've made some progress, but more is required.

I also think that we need to have national fora in which we bring together people from the various professional health care areas. Let me give you an example. Last year Canada hosted an International Conference on Health Promotion with the World Health Organization and the Canadian Public Health Association. It was at that time that we released our paper ''Achieving Health for All: A Framework for Health Promotion''. At that Conference Canada took on a leadership role in health promotion, that is now being recognized in international fora. For example, Australia has requested that we bring the Canadian plan there as well.

I don't think these plans work only from a top down management point of view, if I may put it that way, where the Minister of Health comes up with these policies and programs, and then leaves the professionals out of the play. Quite frankly, in terms of national fora, I'm going to take the comment back to the department, and see what kind of dialogue we can put together, not only between the department and CDA, which have ongoing dialogue, but also to expand it to include intersectoral discussions with



The Honourable Jake Epp, Minister of Health and Welfare.



Dr. R.J. Markey, President of the Canadian Dental Association.

other associations. The department will be asked how it might best be formulated. In the meantime it is my hope that the dental profession will be represented when we meet with the Provinces in a series of federal – provincial workshops on "Achieving Health for All". I would of course welcome suggestions from your profession for additional opportunities for dentistry to contribute to the health promotion process.

Dr. Markey: One of the concerns that I can see some of the national organizations having is the impact you visualize in terms of the future practice of health care in Canada, and obviously the associated impact on health costs. The type of strategy you're talking about will ultimately result in a different pattern of delivery systems, and possibly a different pattern in expenditure of the health dollar. Could you comment on that? I know it's difficult to be specific.

Mr. Epp: No, I'd like to comment on that, because if you take a look at the health care system in Canada today, (and I won't go through the various criteria as to why it's a good system) and examine almost any cost factor, what we're really dealing with is containment of cost escalation.

Anyone who says that we are going to reduce health care costs is being unrealistic. The demographics teach us that, the technology teaches us that, the extra services teach us that. So let's be quite realistic. What we're looking at is escalation of health care costs. Now, if that is valid, and I believe it to be so, as future governments, provincial and federal, look downstream, all will face the question: How do you finance the health care system?

I am absolutely convinced that we have to develop a health care related industry in Canada. We cannot simply purchase from abroad. We have to be able to generate income, health income from within Canada. One of the areas in which I think we can make particular progress is in the area of aging because, if you take a look internationally, there are quite some gaps there. In other words, it's not yet as competitive a field as some other applied research. And, secondly, we have an experience which is based on our geography and our expanse. And I think those are just two very quick, specific areas in which we will see the health care system change and which we can also sell internationally, apart from a health promotion approach. Now having said that, when I look downstream I think governments are going to have to face this question: Does health care also generate income, does it pay for part of the traffic, part of the way? And while we have a public system, I have no doubt that Canadian health entrepreneurship is going to have to become a bigger part of the health and economic communities of Canada. That's on the economic side.

With respect to the statistics, does health promotion reduce costs? Again we are dealing with escalation of costs. I am convinced that the adage of the old philosopher to the effect that an ounce of prevention is better than a pound of cure, is really the motto and history of the Canadian Dental Association. I think that Canadians are coming around to this approach, but not only because of cost escalation. They're coming around to it because of their own health and well-being.

I think the system that we will see will assume a more preventive mode. It will also have more direct involvement by the individual in his or her health care. All you have to do is take a look at the younger generations as to what they eat and what they drink. They're very aware of it. Some of us who are a little older maybe have lost that vision, but not our young people. By the way, I think some of the strongest support that we are getting on health promotion, is from the young. I think that bodes well for the future.

Dr. Markey: It's interesting to look ahead and see the role of health professionals in

this whole area. I can see the development of the types of personnel in some of these areas that probably don't even exist today. Any future thinking in that area?

Mr. Epp: I can't really answer that now. I expect that there will be new roles. For example, it's not that many years ago that physiotherapy was not nearly as much a part of medicine as it is today. A case in point in the dental field is the use of the dental hygienist. We've changed our methods in that respect. I think that the configuration of health professionals quite frankly will depend on the needs of the public and the kind of service they can provide.

I have no doubt that we are going to see change in the health care system along the lines of coping, self-help and community support. It's almost a cycle, if you take a look at the past. Historically, the medical associations and health professionals were very close to the delivery of health care. They made house calls and provided very direct access to the patient. That changed, for a number of reasons, into more centralized services. While I think centralized services will remain, I think you'll see that they will be complemented by other broader services. In other words, when a person accesses the health care system, it will be access to a broad variety of services. Already we're seeing this change. Dentists are an example of this in terms of the multiplicity of services you now offer. I think we are going to see more of that. Now, you might have to move from some of your offices into senior citizens' centres, but that might be a good move.

Dr. Markey: I think we're moving into a realm where, because of our actual involvement in prevention and promotion, and our concern about other national health issues, we are anxious to participate in more national discussion, not only in areas that pertain directly to our profession, but to other areas that have overall health impacts, and where we feel that we have a responsibility. As Minister of Health, do you have any suggestions to our organization in this regard?

Mr. Epp: Yes, I have suggestions. Currently you have established liaison with Government departments of health. I don't think you can ever reduce the need for that liaison, both nationally and provincially. The field is so vast and the demands for time and attention are so competitive, that I think the Association, while it has a right to rest on some of its laurels, is not going to be able to do so in the future. The system is going to demand change, and you can only be part of that change if the Association continues to be as assertive as it has been in the past, in terms of demanding change. That doesn't come easily, because as I say, there are so many competing forces within the health care system. I don't have to tell dentists that you've had that experience!

I think that change is absolutely critical because of the demand, not from professionals in the Dental Association, but from Canadians who are looking at their health as a fundamental resource for daily living. Simply to serve them, I would recommend very strongly that the CDA stay in touch with us, and keep pressing its issues, because that is the only way change is really brought about.

Dr. Markey: Mr. Minister, thank you very much for taking the time out of your busy schedule for these questions with us today. We have really appreciated this opportunity.

Mr. Epp: Good to be with you.

DR. RON SMITH IS NAMED PRESIDENT OF B.C. COLLEGE

Dr. Ron G. Smith was elected President of the College of Dental Surgeons of British Columbia for 1987-88 at the College's annual meeting, June 21.

Dr. Smith, who succeeds Dr. Serge Vanry, has a general practice in Duncan, B.C.

Other officers elected on the occasion were: Dr. Perry Trester, and Dr. John Diggens, as Vice-Presidents, and Dr. Arnie Steinbart, as Treasurer.

Dr. Trester is an oral and maxillofacial surgeon in Vancouver, Dr. John Diggens is a Vancouver endodontist and Dr. Steinbart is a general practitioner in Prince George, B.C.

Dr. John Robertson as President of the Canadian Dental Association, was an honored guest and presented CDA Certificate of Merit Awards to Dr. John Silver, a past president of the BC College and Dr. G. Roy Thordarson, Executive Director of the College, for their special contributions to Canadian dentistry.

Immediate Past-President, Dr. Serge Vanry was presented with a dramatic piece of sculptured art by incoming College President, Dr. Ron Smith, as a token of the College's appreciation of his contribution to dentistry in B.C.

Dr. Vanry was also honored by the Academy of General Dentistry with a special Honourary Membership.

UBC ANNIVERSARY, B.C. COLLEGE ANNUAL, "WINNING COMBINATION"

The celebration of the 25th anniversary of the establishment of the Faculty of Dentistry at the University of British Columbia, and the annual Convention of the College of Dental Surgeons of B.C., created a "winning combination" in terms of both scientific and social programs, according to delegates and alumni.

A highlight was a series of "hands-on" participation seminars at the College session, and outstanding scientific presentations by speakers of international renown.

Dr. P.I. Branemark of the University of Gothenburg, Sweden, spoke on "Biocompatible Implants", and one of his countrymen, Dr. Bo Krasse, gave a presentation on the microbiology of caries.

The various clinics attracted overflow audiences.

University events

The special contribution to dentistry made by distinguished University of British Columbia alumnus, Dr. J.B. Macdonald, who was President of UBC from 1962 to 1967 was recognized at the dental faculty anniversary celebrations. Dr. Macdonald was particularly supportive in the establishment of the dental faculty during his term as President. He was given the Honourary Alumnus Award for 1987.

Also honored on the occasion was Dr. Wah Leung, the founding dean of the UBC Faculty of Dentistry. Named a "Honoured Guest", Dr. Leung was the driving force in the development of the Faculty, during its first 15 years.

On the social side, highlights were a well-attended opening reception in the patio area of the Student Union building, which was favored by the elements – beautiful summer weather, a spectacular salmon barbeque and dance, followed by music ranging from big bands to rock and roll.

The committee

Attendees were vocal in their praise of the organizing committee, chaired by Dr. Alan Lowe, his program co-chairman, Dr. Bob Clarke and Dr. Virginia Diewert, and to Dr. Marcia Boyd, who chaired the local arrangements team.

NORTHWEST TERRITORIES DENTAL ASSOCIATION ANNUAL MEETING

The Northwest Territories Dental Association held its Annual Summer Meeting in Yellowknife, capital of the Northwest Territories on the weekend of 10th. July 1987. The meeting commenced with a banquet

attended by 36 people at the Yellowknife Inn, and such Northern foods as Arctic Char and Muskox filet were well appreciated.

President Dr. H. Adam gave a welcome speech, and introduced Dr. Hersch Stemeroff from Toronto as guest speaker. Following Dr. Stemeroff's entertaining talk, Dr. A. Nichol of Yellowknife spoke briefly and introduced Mr. Mike Shukuda of Schrein Dental Laboratories who spoke at some length on the intricacies of supplying laboratory services to the scattered clinics of the North.

On Saturday, a cruise on the Great Slave Lake had been organized, with the party of dentists, families and guests being dropped off at an island for fishing and a barbecue. Hot and sunny weather added to this enjoyable social occasion.

On Sunday, lectures were given by Dr. Tom Mather, endodontist, on trauma, and by Dr. Jim MacDonald, periodontist, on diagnosis.

The meeting ended with the presentation of a Northern carving to each of the guest lecturers, and a speech of appreciation by Dr. Adam.

This report was submitted to the Journal by Dr. J.W. Tennant, Secretary of the Northwest Territories Dental Association and a practitioner in Hay River, the Northwest Territories.

CANADIAN REPRESENTATIVES ATTEND PURCHASER CONTACT SEMINAR

by D.E. MacFarlane, DMD,
Chairman, Third Party Dental Plans Committee

The Canadian Dental Association, through its Third Party Dental Plans Committee, recently organized a Purchaser Contact Program Seminar, put on by the Chicago Dental Society's *Dialogue in Dentistry (DID) Program*. It was held in Chicago, June 13 and 14, 1987 and attended by representatives from across Canada.

This seminar was organized to assist representatives of each provincial dental organization to become completely familiar with a first-class Purchaser Contact Program, thus enabling them to establish a similar program in their own province. It is hoped that such a program would allow representatives of the dental profession to effectively interface with employers, union health trustees and others making decisions about purchasing and amending dental plans. The program is especially designed to familiarize companies with the various alternative plans currently being offered in the benefits marketplace.

The specific goals of the Dialogue in Dentistry Program are:

1. To eliminate the misinformation which sometimes leads purchasers to make misdirected dental benefit decisions. DID accomplishes this by increasing the general understanding of dental benefits and by providing a computer analysis of a company's own claims data. This analysis is provided by comparing the client's data with that of similar companies whose data is already stored in the DID databank.
2. To communicate with benefit purchasers and develop a database which should result in: (a) an understanding in the difference between medical and dental benefits; (b) individual purchaser understanding of the costs of dental benefits for his own employees; and (c) the consumer's understanding of dental benefits and the value given for the dollars spent.
3. To provide an opportunity for an employer to consider the advantages and disadvantages of a full range of different dental plan designs, taken into consideration with the associated costs.
4. To assist first-time purchasers in obtaining the best dental benefit plan design for their company and its employees.
5. To eliminate the sales approach to dental benefits by providing a review and discus-

PRESIDENT'S COLUMN

Ron J. Markey, DDS, MSD
President of the Canadian Dental Association

BUILDING ON A SOLID FOUNDATION

The initial column from a new President is expected to promote new ideas and directions rather than falling back on older values and respected traditions. Professions don't necessarily work that way. Our profession has been built on a commitment to excellence. Efforts to carry forward should not ignore the fact that we have been given a solid foundation, through the efforts of many outstanding individuals. Thanks to our predecessors, being a member of our profession is an honorable and rewarding experience.

Our challenge today is to maintain the professionalism we value, in the face of many institutions and individuals that would wish to see it erode, and render it meaningless. Although many of our problems are external (e.g. insurance industry, union, business, and government pressures), there are those that are self-inflicted, such as billing, advertising, continuing education and peer review. All of these areas and more are the subject of lengthy debate, analysis, and finger pointing.

The preservation of our profession as we know it today requires a cooperative effort from all sectors of organized dentistry. This is not as easy as it sounds, because some of the grumbling I have heard from practitioners and officials from all of our institutions over the last few years, indicates that our own ranks need to pull together. Our profession and the oral health of all Canadians is influenced by our academic community, our examining board (NDEB), our specialty sections, auxiliary groups, licensing bodies, corporate bodies, the CDA, the list goes on. Efforts to achieve consensus have by and large been successful, yet our own political process is looked upon by many as frustratingly cumbersome, and incapable of achieving ideal solutions.

This is nonsense, if only because we no longer have the luxury of perfect solutions. Our corporate bodies and our national association are the principal mechanisms we have for arriving at consensus and effecting change. We have outstanding people working hard at all levels. Our track record lately is pretty good, and it can get better. Dental politics should not be a dirty word, our profession needs to perceive that its leaders are committed to what politics really is, namely, the art of the possible.

Our objective is simple: the preservation and enhancement of the oral health of all Canadians, and the best system of dental health delivery in the world. If we work together, the poor ideas and the pretenders will come and go, but we will still be here long after they are gone – because we are a profession committed to these goals.

sion only. DID representatives give an objective opinion, from the dental profession's perspective, on the plans available. It has been DID's experience that their perspective is widely respected in the community.

6. To provide an opportunity to regain control of dentistry's own destiny (and that of our patients as well) through encouraging informed purchaser decisions.

7. To provide a chance for dentistry to take a leadership position among health care providers by giving valuable free service to the public and to industry.

The seminar was two full days, packed with very timely information, since alternative plans are currently being so actively marketed in Canada. The seminar presenters were the three dentists instrumental in starting Dialogue in Dentistry: Dr. Terry Sellke, Dr. Warren Smith, and Dr. Michael ''Dewey'' Grousd, each of whom has a wealth of experience to share. In addition, the Dr. Del Stauffer, Executive Director of the Chicago Dental Society, and Mr. Steve Drew, the Dialogue in Dentistry Program Associate Program Director, rounded out the program by providing details on the administrative aspects involved. Nineteen representatives from Canada attended and left with sufficient practical knowledge and a briefcase full of ''how-to'' information – in essence, a ''cookbook'' they can use in their provinces to begin purchaser contacts, once provided with the appropriate statistical back-up.

The Canadian Dental Association was pleased to be able to support the costs associated with the seminar presenters, the meeting rooms and some of the pre-course printed materials, as well as the expenses of its representatives. Each province funded the travel costs and living expenses of its own representative(s), as well as materials provided at the seminar.

IADC CONGRESS A HUGE SUCCESS

By Dr. Marvin Klotz

The 11th Congress of the International Association of Dentistry for Children was held in Toronto from June 7-11, 1987. The meeting attracted over 300 registrants and their families from 41 countries, who filled the Harbour Castle Hotel for all events. The scientific program was of the highest calibre featuring 60 papers presented by clinicians, researchers and academics from Sweden, Norway, Japan, England, Israel, Nigeria, Greece, India, U.S.A. and Canada.

Among the keynote speakers were: Dr. Noni Macdonald, virologist from Children's Hospital of Eastern Ontario who discussed AIDS and Hepatitis as a dental concern; Dr. Dennis Schmidt, Professor of Biomaterials, University of Toronto who gave an overview of local and systemic effects of dental materials; Professor George Zarb, University of Toronto, explained the history and current status of osseointegrated implants.

This truly international meeting was sponsored by the Canadian Academy of Pediatric Dentistry and was supported by many groups. The chairman of the organizing committee, Dr. Frank Pulver, was named President-Elect of the International Association.

Other topics included: prevention, sealants, composites, medical considerations, patient management and the epidemiology of dental disease. There was a major poster session during a ''Luncheon with Learning''. The social side was not neglected with an excellent opening reception, an Ontario Place extravaganza and the President's Ball. Formal Ceremonies officially opened the meeting with his honour Lincoln Alexander, Lieutenant Governor of Ontario, presiding.

The participants were educated, entertained, wined and dined. For those who craved more there was a special tour of Niagara Falls. Our traditional Canadian hospitality was maintained and all considered, the 11th Congress was an overwhelming success.

There was extensive press, radio and television involvement with coverage in Toronto and nationally. The topic of AIDS and Infection in the dental office was especially popular with the media. Positive publicity for dentistry was a pleasant bonus. Special mention and thanks should be given to Dr. Franklin Young who co-ordinated local arrangements and social events; Dr. Arlie Dungy organized the excellent scientific program and the rest of the organizing committee who did our profession and our country proud!

From left to right are some of the leading participants in the IADC Congress. They are: Dr. Franklin Pulver, Congress chairman; Dr. Arlington Dungy, program chairman; Ontario's Lieutenant Governor, Lincoln Alexander; Robert Crick, Acting High Commission of Australia; Dr. Marco Guillen, Ambassador of Costa Rica; Dr. Raymond Pauly, President of the IADC (Costa Rica) and Tom McKean, piper.

Dr. Arthur Wood, Toronto, left, and Dr. Cosmo Castaldi, University of Connecticut, demonstrated sports safety equipment during the IADC Congress in Toronto. Centre is Walter Mahere, Technical Supervisor, Undergraduate Paedodontics and Orthodontics, University of Toronto.

HEALTH AND SAFETY INFORMATION AVAILABLE ELECTRONICALLY

The Canadian Centre for Occupational Health and Safety (CCOHS) now has a data base information service available to interested subscribers.

The data base systems, *CCINFOdisc* is available on compact disc with Read Only Memory (ROM). The system includes all CCOHS information, data bases and videotex information packages. The system is composed of the following:

- Data bases providing information on chemicals for trade name products (Material Safety Data Sheets), and extensive information on individual pure or synthetic chemicals.
- Directories of Canadian studies, resource organizations and resource people involved in occupational health and safety in Canada;
- A catalogue listing CSA standards and certified products directories;
- Data bases providing references to occupational health and safety documents worldwide;
- Videotex information packages illustrating occupational health and safety topics;
- CCOHS publications in their entirety.

To access the service, users must be equipped with an IBM PC, XT, AT or compatible with a minimum of 512 K memory, MS-DOS operating software, CD-ROM drive unit and additional equipment if using the videotex.

The annual subscription rate of $100 allows subscribers to obtain either Series A, Chemical Information or Series B, Occupational Health and Safety Information.

To subscribe or obtain more information, contact:

The Canadian Centre for Occupational Health and Safety, 250 Main St. E., Hamilton, Ont., L8N 1H6, 1-800-263-8276.

DR. EDWARD BARRETT IS NEW AGD PRESIDENT

Edward D. Barrett, DDS, of Rochester, Michigan, was named president of the Academy of General Dentistry during AGD's Annual Meeting, *The Changing Shape of Dentistry*, July 17-22 in Seattle.

The Academy of General Dentistry is the second largest dental organization in North America and is composed of 30,000 dentists in the U.S. and Canada dedicated to continued education in general practice.

Dr. Barrett automatically became AGD President after holding the offices of vice president, 1985-86, and president-elect, 1986-87. He has also held numerous positions in the Academy throughout his 13-year membership, including Region 9

Edward D. Barrett, DDS

National Director (encompassing Michigan and Wisconsin) and Chairman of the General Arrangement Committee for the 1985 Annual Meeting. He attained Mastership status in 1982.

Dr. Barrett graduated from the University of Detroit School of Dentistry in 1954, and maintained a general practice until 1984. He is currently Director of Continuing Education and Alumni Relations at the University of Detroit School of Dentistry.

Dr. Barrett is editor of the *Michigan Dental Association Journal*. He has also served in several other dental organizations including the American Dental Association, the Oakland County Dental Association, the Eastern Conference of Dental Continuing Educators, the American College of Dentists, the University of Detroit Dental Alumni Association and the Michigan Academy of General Dentistry where he has held the offices of president, vice president and editor.

Dr. Barrett also shares his dental expertise in articles, clinics and lectures throughout the United States, Canada, Europe and China.

Other officers

John C. Brown, DDS, of Claremont, California, who has served as AGD Treasurer, is President-elect. He will automatically succeed to the presidency in 1988. Dr. Brown was graduated from the University of Southern California School of Dentistry at Los Angeles in 1961 and is now co-director of the Orthognathic Seminar at that University, and has a private practice with his son, in Claremont.

The new Vice-president is Warren C. Lesmeister, DDS, of Memphis, Tennessee. He most recently served as secretary. He has also held the position of Region 6 national director.

ADA Executive Director honored

The Academy bestowed the prestigious honor of Honorary Fellowship upon Thomas J. Ginley, PhD, Executive Director of the American Dental Association. To be considered, individuals must have made exceptional contributions to the art and science of dentistry, through practice, education, public health, administration, research or public service, and to the promotion of the objectives and goals of the Academy of General Dentistry.

Dr. Ginley has served in several responsible staff positions throughout his more than two decade involvement with the ADA.

Infection control

The AGD's House of Delegates passed a resolution that urges all AGD members, all practising dentists and dental office personnel, to employ the infection control measures approved by the American Dental Association.

James A. Cottone, DDS, MS, a professor in the Department of Dental Diagnostic Science at the University of Texas Health Science Center at San Antonio Dental School, addressed the subject of hepatitis and AIDS in dentistry in his session – "Hepatitis and AIDS: A 1987 Update". He stressed the critical role dentists play in identifying patients with pre-AIDS and AIDS symptoms, and the necessity of employing infection control measures including gloves, masks or goggles in the examination process. "AIDS is a problem that cannot be ignored because" he said, "in time, all dental practices will see patients with pre-AIDS symptoms."

A hotly debated topic in Academy circles for the past four years, the *National Course Sponsor Approval Program*, was finally approved by the House of Delegates. The program will serve as an evaluation system to distinguish quality continuing education courses. Operating on international, national, state and local levels, it will serve as a quality control mechanism for more that 100,000 such courses each year.

Chicago in 1988

The 1988 Annual Meeting of the Academy will be held in Chicago, with the theme – *Reaching New Heights*. It will be staged form July 15 to 20.

DID YOU KNOW?

P. Ralph Crawford, D.M.D.

Thanksgiving

"O Lord! that lends me life
Lend me a heart replete with thankfulness!
(Shakespeare, King Henry IV)

DID YOU KNOW? That the Pilgrims at the Plymouth Colony in 1621 were *not* the first to have a Thanksgiving Feast in North America! It is recorded that Martin Frobisher, while seeking a North West Passage in the eastern Arctic in 1578, celebrated amongst his crew a service of Thanksgiving.

DID YOU KNOW? A Canadian Act of Parliament declared in 1879 that November 6th was to be the national day of Thanksgiving. It seems the Canadian public did not always adhere to the "official" day, with later and earlier dates being observed throughout the years – the most popular one being the 3rd Monday in October. It appeared to observers after World War I that Armistice Day and the "official" November 6th day of Thanksgiving were too close. It wasn't until January 31, 1957 that the Parliament of Canada proclaimed Thanksgiving Day the Second Monday in October.

DID YOU KNOW? Undoubtedly, numerous Canadian dentists, in various modes and fashions, bestow through their actions, deeds and donations, thanks unto the profession of dentistry for the many bounties they themselves had received and enjoyed. The rolls of CFDE; scholarships and prizes at faculties of dentistry; donations to University building and endowment funds; etc., etc., all bespeak of the generosity of many dentists.

DID YOU KNOW? That *one* Dental Society in *one* Canadian city has produced *three* of the most generous and thankful dentists in the history of Canadian dentistry? Perhaps it was just coincidence, perhaps it was one influencing the other – we shall never know. The three dentists, each members of the Ottawa Dental Society, have individually, and no doubt as singular marks of thanks and generosity, bequested more to the well being of Canadian dentistry than any other members of the profession.

Dr. Sydney Wood Bradley: 1879-1967, Ottawa orthodontist, past president and honorary member of ODA and CDA. For many years a tireless worker and anonymous benefactor of CDA Library. When he died in 1967 his bequest of $50,000 (a very large sum 20 years ago!) established the CDA Sydney Wood Bradley Memorial Library.

In 1986 Dr. Bradley's only daughter, Mrs. Helen Margaret Langstaff upon her death, bequeathed to the Library her father had founded, the magnanimous sum of $1,360,000. "for the purpose of the Sydney Wood Bradley Memorial Library".

Dr. Lorne Edgar MacLachlin: 1897-1985. A legend in Canadian dentistry! His name (along with Dr. Sydney Wood Bradley) was one of the four signatories of the Act of Constitution of Incorporation of the CDA. In the Eastern Ontario Association, the Ottawa Dental Society, the ODA and the RCDS his name bears numerous laurels of distinction.

Dr. MacLachlin was a life-long student himself and willingly passed his knowledge on to his colleagues across the nation and abroad. His name was synonymous with perfection in prosthodontics.

At the time of his passing it was known that Dr. MacLachlin had bequeathed in excess of $300,000 to faculties of dentistry for the pursuit of excellence in prosthodontics.

Dr. Frederick Gladstone Gollop: 1897-1984. A 1920 graduate of the University of Toronto, Dr. Gollop carried on a solo private practice in Ottawa for near 50 years. A quiet, kindly man, Dr. Gollop spent a lifetime of practice dedicated to the ideals of dentistry. His bequest of $66,000.00 was made payable to the CDA for "the well being of the profession".

"The worship most acceptable to God,
comes from a thankful and cheerful heart"
(Plutarch.)

CFDE CELEBRATES 25TH ANNIVERSARY

This month, normally designated as CFDE Month, is a very special one for the Canadian Fund for Dental Education: it marks CFDE's 25th year of service to the dental profession and dental education.

Over the last quarter century, $2.3 million has been invested by CFDE in the dental profession and dentistry as a whole in Canada has felt the benefit of the continuing support of the Fund.

The sole purpose of CFDE is to promote good dental health in Canada. Some of the ways in which the Fund accomplishes this goal are to support dental awareness programs, fund various dental conferences and symposia and support teacher training fellowships. The money to help fund these programs comes from a variety of sources: dental organizations, business and industry, foundations, bequests and investment income. However, according to CFDE officials, the single largest source of Fund income comes from donations by individual Canadian dentists made on an annual basis.

To donate to the Canadian Fund for Dental Education, write to:

CFDE, 1815 Alta Vista Dr., Suite 105, Ottawa, Ont., K1G 3Y6 or telephone 613-731-0493. For the convenience of donors, Visa is accepted.

THE "DID YOU KNOW?" QUIZ!

Test your memory and knowledge of an item that has appeared in a previous issue.

This month's question:

What was the year and in what city was the Canadian Dental Association founded?

THE PRIZE: For the first FIVE correct answers drawn at random, 100 FREE CDA PAMPHLETS* of your choice can be won.

Send your answer to **DID YOU KNOW?**
c/o The Journal of the CDA
1815 Alta Vista Drive
Ottawa, Ontario, K1G 3Y6

* *Excluding* the pamphlet "Consumers Guide to Dental Care"

GOOD LUCK!

CDA ACCREDITED PROGRAMS IN DENTISTRY, DENTAL HYGIENE AND DENTAL ASSISTING

Undergraduate programs in dentistry, dental hygiene, dental assisting, and graduate and postgraduate programs in CDA recognized specialties, which have been evaluated by the Canadian Dental Association are listed below. The list includes all CDA-approved programs at the time of publication. If accreditation status is desired concerning any other program not listed, please write to the CDA Council on Education and Accreditation, 1815 Alta Vista Dr., Ottawa, Ont. K1G 3Y6.

The list is amended annually following the meeting of the CDA Council on Education & Accreditation in June.

CDA Accredited Dental Programs

Alberta:
Faculty of Dentistry
University of Alberta, Edmonton
Undergraduate Program
Postgraduate Orthodontics

British Columbia:
Faculty of Dentistry
University of British Columbia
Vancouver
Undergraduate Program
Postgraduate Periodontics

Manitoba:
Faculty of Dentistry
University of Manitoba, Winnipeg
Undergraduate Program
Postgraduate Oral Surgery
Postgraduate Periodontics
Postgraduate Orthodontics

Nova Scotia:
Faculty of dentistry
Dalhousie University, Halifax
Undergraduate Program
Postgraduate Periodontics
Postgraduate Oral Surgery

Ontario:
Faculty of dentistry
University of Western Ontario
London
Undergraduate Program
Graduate Program Orthodontics
Graduate Program Oral Pathology

Faculty of Dentistry
University of Toronto
Toronto
Undergraduate Program
Postgraduate Oral Surgery
Postgraduate Pediatric Dentistry
Postgraduate Orthodontics
Graduate Program Oral Pathology
Postgraduate Periodontics
Postgraduate Oral Radiology

Quebec
Faculty of Dentistry
McGill University
Montreal
Undergraduate Program
Graduate Oral Surgery

Faculté de médecine dentaire
Université de Montréal
Montréal
Undergraduate Program
Postgraduate Orthodontics
Postgraduate Pediatric Dentistry

L'École de médecine dentaire
Université Laval
Ste-Foy
Undergraduate Program
Postgraduate Oral Surgery

Saskatchewan
College of Dentistry
University of Saskatchewan
Saskatoon
Undergraduate Program

CDA Accredited Dental Assisting/Dental Hygiene Programs

Algonquin College of Applied Arts & Technology,
Nepean, Ontario
Dental Assisting/Dental Hygiene (English & French Program)

Cambrian College of Applied Arts & Technology
Sudbury, Ontario
Dental Assisting/Dental Hygiene

*Canadian Forces Dental Services School
C.F.B. Borden
Ontario
Dental Assisting/Dental Hygine
*Open to Armed Forces Personnel only.

Canadore College of Applied Arts & Technology
North Bay, Ontario
Dental Assisting/Dental Hygiene

College of New Caledonia
Prince George, B.C.
Dental Assisting

Collège François-Xavier Garneau
Québec, Québec
Dental Hygiene

Collège Maisonneuve
Montréal, Québec
Dental Hygiene

CEGEP Saint-Hyacinthe
St. Hyacinthe, Québec
Dental Hygiene

Confederation College of Applied Arts & Technology
Thunder Bay, Ontario
Dental Assisting/Dental Hygiene

Dalhousie University
Faculty of Dentistry
Halifax, N.S.
Dental Hygiene

Douglas College,
New Westminster, B.C.
Dental Assisting

Durham College of Applied Arts & Technology
Oshawa, Ontario
Dental Assisting/Dental Hygiene

Édouard Montpetit College
Longueuil, Québec
Dental Hygiene

Fanshawe College of Applied Arts & Technology
London, Ontario
Dental Assisting/Dental Hygiene

George Brown College of Applied Arts & Technology
Toronto, Ontario
Dental Assisting/Dental Hygiene

Georgian College of Applied Arts & Technology
Orillia, Ontario
Dental Assisting/Dental Hygiene

Holland College
Charlottetown, P.E.I.
Dental Assisting

John Abbott College
Ste Anne de Bellevue, Quebec
Dental Hygiene

Keewatin Community College
The Pas, Manitoba
Dental Assisting

Kelsey Institute of Applied Arts & Sciences
Saskatoon, Sask.
Dental Assisting

Malaspina College
Nanaimo, B.C.
Dental Assisting

University of Manitoba
Faculty of Dentistry
Winnipeg, Manitoba
Dental Hygiene

Niagara College of Applied Arts & Technology
Welland, Ontario
Dental Assisting/Dental Hygiene

Northern Alberta Institute of Technology
Edmonton, Alberta
Dental Assisting

Northern Alberta Institute of Technology Independent Study Program
Edmonton, Alberta
Dental Assisting

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Nova Scotia Institute
of Technology
Halifax, N.S.
Dental Assisting

Okanagan Community College
Kelowna, B.C.
Dental Assisting

Open Learning Institute
Richmond, B.C.
Dental Assisting

Red River Community College
Winnipeg, Manitoba
Dental Assisting

St. Clair College of Applied
Arts & Technology
Windsor, Ontario
Dental Assisting/Dental Hygiene

Seneca College
Willowdale, Ontario
Dental Assisting/Dental Hygiene

Southern Alberta Institute of
Technology
Calgary, Alberta
Dental Assisting

University of Alberta
Faculty of Dentistry
Edmonton, Alberta
Dental Hygiene

Vancouver Community College
Vancouver, B.C.
Dental Assisting/Dental Hygiene

Wascana Institute
Regina, Sask.
Dental Assisting/Dental Hygiene

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by Cuspid

DENTISTRY: AN ART AND A SCIENCE

The annual reports of Ontario's Health Disciplines Board reveal that more than a quarter of the complaints the Board reviews are about dentists. Further, many of the complaints the Board does deal with have to do with communication – or, more specifically, non-communication. This, in all fairness, is probably a bilateral business: patients failing to understand what dentists and other health care professionals have said, and vice versa.

But since there's no Patient Discipline Board, perhaps the schools could initiate better communications by introducing some English language and literature courses. Certainly, that's the message in one chapter of the book *The State Of The Language*. The chapter, titled Language, Truth and Psychology, is by novelist and psychologist Liam Hudson, who refers to the present "crisis of intelligibility" among scientists, who, he says, "are barely able to utter a sentence that does not include the key words **situation**, **interaction** and **role**". What lies between scientists and their subject matter, says he, is an inadequate grasp of the English language. . . a grasp that can be tightened, Hudson believes, by reading the great writers.

In a new book titled *A Doctor's Calling*, retired physician Dr. Morris Gibson notes that medicine is still not so much a science that its practitioners can afford to neglect the art. Writes Gibson: "We depend too much on expensive and sometimes unnecessary tests".

Certainly, there is growing support for Gibson's point of view among health care educators in North America. A new program at Harvard University, for example, is one of an increasing number that are formalizing the teaching of social responsibility, ethics and "patient-centred" medicine as part of the therapeutic process. A 1985 survey by the Association of American Medical Colleges showed that 112 of the United States' 126 four-year medical schools now require courses in doctor-patient relations, communication skills, and cultural, social and ethical issues.

Among the first to try to bridge the gap between the humanities and science in medical schools is Norman Cousins, who, after more than 30 years as editor of the respected US magazine *Saturday Review*, was appointed to teach language and literature to medical students at the University of California at Los Angeles.

Some contend that this new emphasis on the art of health care could detract from the strictly scientific and technologic aspects. But as long as Ontario's Health Disciplines Board and comparable watchdogs find that poor communication – not incompetence – is at the root of complaints, with or without accompanying litigation, about health care practitioners . . . the renewed emphasis upon art and empathy in the healer-patient relationship will continue to gather momentum.

FORMER CANADIAN IS NOTED CHILDREN'S DENTISTRY PHILANTHROPIST

Dr. Samuel Harris, a retired Detroit dentist, now maintains a business office in that city where he administers a philanthropic program for the advancement of children's dentistry in the United States, Canada, and several other countries.

Born in Russia, Dr. Harris lived his boyhood years in Hamilton, Ontario, before moving to Detroit, Michigan. He was awarded his DDS degree in 1924 from the University of Michigan. He then attended the Forsyth Dental Infirmary for Children in Boston, in 1924 and 1925. Dr. Harris also further honed his specialty skills at Tufts, Harvard, Columbia and New York Universities.

Gifted organizer

At an early stage of his professional career, Dr. Harris exhibited his unusual organizing ability. Convinced that there should be a national organization for children's dentistry, he began by organizing the Detroit Pedodontic Study Club, in 1925. Then he began spade work to attain the national goal. In 1927 at an American Dental Association meeting in Detroit, the American Society of Dentistry for Children was born.

And he didn't stop there.

He initiated the development of the Society's first publication, the *Review of Dentistry for Children*, in 1933 and served as its editor for 10 years. The publication later became the *Journal of Dentistry for Children*.

Dr. Samuel Harris

He was the author of a definitive work, *A History of the American Society of Dentistry for Children, 1926-1968*, and has been the author of numerous articles.

Dr. Harris maintains a direct contact with Canada as an honorary member of the London (Ontario) Academy of Dentistry.

He has played an international role in the advancement of children's dental health by drafting guidelines and a model constitution and bylaws for the organization of dental societies for pedodontists, which has resulted in the formation of such groups in 14 countries.

Practised for 54 years

Dr. Harris' personal practice statistics are also notable. He maintained his Detroit pedodontics practice from 1924 until his retirement in 1978.

Generous gifts

By the time of retirement, he had reached a level of considerable affluence and he has devoted his recent years to setting up foundations and funds to support advancement in children's dentistry. Recently he granted funds to the Canadian Academy of Paedodontics.

Dr. Harris maintains contacts with Canadian friends such as Dr. A.W.S. Wood of Islington, Ontario who studied pedodontics in Chicago as a graduate student, along with Dr. Harris.

Dr. Harris recently told Dr. Wood that he was "proud to have been a Canadian" and admires the work Dr. Wood has done in the the development of protective equipment for athletes.

Dr. Wood said Dr. Harris wishes to set up a fund called The Sam Harris Fund to promote children's dentistry in Canada.

International fund

Dr. Harris was a recent honored guest at the International Association of Dentistry for Children 11th annual Congress, held in Toronto. He and officials of the IADC are conferring on the possibility of a very substantial provision of Harris funding to that body.

In the United States, Dr. Harris has become the largest non-corporate contributor of funds to the American Fund for Dental Health (AFDH). His cumulative donations to that body now total $120,000.

ONTARIO DENTAL ASSOCIATION PROPOSES DENTAL CARE PROGRAM FOR SENIORS

The Ontario Dental Association recently held a press conference calling on the Ontario government to establish a comprehensive dental care program for citizens over 65 years of age.

The proposal comes hard on the heels of the Ontario government's recent announcement of the establishment of a dental care plan for elementary school children whose families are unable to pay for urgently needed treatment. The children's program is expected to receive $7.3 million in funding from the Ontario Ministry of Health, and serve up to 45,000 Ontario school children through the province's 43 health units.

Under the Ontario Dental Association's seniors proposal, persons in Ontario would become eligible for the dental benefits plan on reaching their 65th birthday, in a manner parallel to the OHIP benefits plan for medical care. The proposed dental plan has as its priorities diagnostic care, preventive care and emergency services. The diagnos-

CDA RETIREMENT SAVINGS PLAN

Unit values: (Funds are valued weekly)

Fund	Unit values as at August 31, 1987	July 31, 1987
Fixed Income Fund	55.87228	56.16956
Common Stock Fund	154.79905	154.57246
Money Market Fund	38.13438	37.88471
Balanced Fund	25.62299	25.71156

Interest rates:

Guaranteed Fund Term	*Interest rates as at August 31, 1987	July 31, 1987
1 yr	9.05%	8.75%
2 yr	9.50%	9.10%
3 yr	10.00%	9.50%
4 yr	10.10%	9.75%
5 yr	10.35%	10.10%

(*rates subject to change without notice.)

Total Assets (Market value) of the Plan as of:

August 31, 1987	July 31, 1987
$90,740,375	$89,285,022

For further information:

Write: Canadian Dental Service Plans Inc.
Retirement Services Department
Suite 600, 2 Lansing Square
Willowdale, Ontario M2J 4Z3

or phone, toll-free:
Western and Atlantic Canada and Ontario Area Code 807 only 1-800-268-5418
Quebec and Ontario, (except Area Code 807) 1-800-268-3411
Metro Toronto Area . . . 497-7117

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tic care component, according to the proposal "will see to it that all dental problems are quickly and professionally diagnosed so that a program of care and restoration can be effected immediately." Emergency services will be given a high priority in the proposed plan, as there is an anticipated need for emergency services among the elderly.

The preventive aspect of the plan would be in part addressed, under the proposal, by providing coverage for regular visits to or by the dentist and for effective dental education and support through public health dentistry.

Under the ODA proposal, an extensive list of services to be covered is suggested. The list covers a broad range of dental services with the exclusions of purely cosmetic dentistry, gold inlays on dentures, and "certain replacement time-frames on dentures."

Under the proposed Dental Plan for Ontario's Elderly, eligible citizens would be provided with dental benefits on the basis of "claims compensation for services rendered by a licensed dentist, or health care professionals working under the supervision of a licensed dentist. Payment for covered services will be made on the basis of the dentist's usual and customary fees according to the Ontario Dental Association's Suggested Fee Guide."

The ODA proposal states that the plan should be designed as a cooperative venture between the Ontario Dental Association, and the provincial Ministries of Health, Community and Social Services, Senior Citizens Affairs and Treasury and Economics. Such a cooperative plan would minimize the burden on the Ontario taxpayer.

The cost of the program is estimated at between $100 and $200 million.

In making the announcement of the ODA proposal to the provincial government, Dr. Jim Brookfield, ODA President said "Seniors are especially vulnerable to dental problems and often ill-equipped to handle the costs associated with proper dental maintenance."

While the ODA proposal calls for the dental care program to cover all eligible seniors in Ontario, Dr. Brookfield indicated a willingness to accept a more limited program, if the government proposed it.

"While we'd prefer an all-in program for seniors, if the Government wants to restrict it to target groups, seniors living in institutional settings, and seniors receiving the Guaranteed Income Supplement should head the list," he said.

The provincial government's reaction to the proposal appears to be somewhat positive. A Ministry spokesman said the Ministry is interested in the ODA proposal and that the dental care needs of Ontario's senior citizens are under discussion.

UNIVERSITÉ LAVAL
École de médecine dentaire

CHERCHEUR EN SCIENCES CLINIQUES

L'École de médecine dentaire désire recruter un chercheur en sciences cliniques qui est admissible à une subvention de développement du Conseil de recherches médicales du Canada. Le candidat choisi devra en priorité développer un programme actif de recherche en sciences cliniques en collaboration avec les professeurs cliniciens en plus d'effectuer ses propres recherches; il assurera aussi des tâches d'enseignement au niveau des 2ème et 3ème cycles.

Critères de sélection

La personne recrutée devra posséder un DDS ou un DMD, être titulaire d'un doctorat de 3ème cycle ou de l'équivalent et être apte à communiquer en français. Elle devra compter un programme actif de recherche.

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M. Paul L. Simard
Directeur adjoint à la recherche
École de médecine dentaire
Université Laval, Québec G1K 7P4

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ACHIEVING HEALTH FOR ALL:

A FRAMEWORK FOR HEALTH PROMOTION

PREFACE

I took office with a commitment to further improve the quality of life for Canadians. On June 17, 1986, at the 77th Annual Conference of the Canadian Public Health Association, I affirmed that commitment by announcing my intention to explore ideas for the future which would address the emerging challenges in health. It was my belief that in order to continue to improve the health of Canadians we would have to move forward with new policies and solutions.

This document represents the ideas that have come forward as a result of our search for a realistic course of action. "Achieving Health for All: A Framework for Health Promotion" reflects the direction I am proposing in our endeavour to attain equity in health.

It is with pleasure that I have chosen the occasion of the International Conference on Health Promotion to share this thinking. I trust that the concepts, challenges and strategies elaborated in the framework will serve to inspire reflection, discussion and action with respect to the health and quality of life of Canadians.

I invite and welcome your comments.

Jake Epp
Minister of National Health and Welfare
Ottawa, Canada
November 1986

I INTRODUCTION

Canada has built a strong health care system, and has achieved for its people a level of health of which we are all proud. We want to continue in this tradition. While it is true that the prospects for health of the average Canadian have improved over recent decades, there nevertheless remain three major challenges which are not being adequately addressed by current health policies and practices:

- disadvantaged groups have significantly lower life expectancy, poorer health and a higher prevalence of disability than the average Canadian;
- various forms of preventable diseases and injuries continue to undermine the health and quality of life of many Canadians;
- many thousands of Canadians suffer from chronic disease, disability, or various forms of emotional stress, and lack adequate community support to help them cope and live meaningful, productive and dignified lives.

The times in which we live are characterized by rapid and irreversible social change. Shifting family structures, an aging population and wider participation by women in the paid work force are all exacerbating certain health problems and creating pressure for new kinds of social support. They are forcing us also to seek new approaches for dealing effectively with the health concerns of the future.

This paper proposes an approach that is intended to help Canadians meet emerging health challenges. We are calling this approach "health promotion". It is an integration of ideas from several arenas - public health, health education and public policy - and it represents an expansion of the traditional use of the term "health promotion". We regard health promotion as an approach that complements and strengthens the existing system of health care.

II A NEW VISION OF HEALTH

In the past, when infectious disease was the predominant cause of illness and death, health was defined in terms of the absence of disease. By the mid 1900s, however, we had reduced the incidence of many of these infections, and health had come to mean more than simply not being ill. It was now defined as a state of complete physical, mental and social well-being. In 1974, a federal publication entitled *A New Perspective on the Health of Canadians* put forward the view that people's health was influenced by a broad range of factors: human biology, lifestyle, the organization of health care, and the social and physical environments in which people live. This representation of the factors contributing to health legitimized the idea of developing health policies and practices within a broader context.

Today, we are working with a concept which portrays health as a part of everyday living, an essential dimension of the quality of our lives. "Quality of life" in this context implies the opportunity to make choices and to gain satisfaction from living. Health is thus envisaged as a resource which gives people the ability to manage and even to change their surroundings. This view of health recognizes freedom of choice and emphasizes the role of individuals and communities in defining what health means to them.

Viewed from this perspective, health ceases to be measurable strictly in terms of illness and death. It becomes a state which individuals and communities alike strive to achieve, maintain or regain, and not something that comes about merely as a result of treating and curing illnesses and injuries. It is a basic and dynamic force in our daily lives, influenced by our circumstances, our beliefs, our culture and our social, economic and physical environments.

This new vision of health does not represent a sudden or dramatic shift in our thinking. It is a view which revisits and embraces earlier ideas, and seeks to make them relevant to contemporary problems.

III NATIONAL HEALTH CHALLENGES

As we broaden and deepen our understanding of health, we begin to perceive with greater clarity the importance and magnitude of the challenges now looming in the field of health. We also draw the conclusion that our system of health care as it presently exists does not deal adequately with the major health concerns of our time.

The challenges we face today are not new. They have been identified separately on various occasions in the past. However, looking at these challenges together enables us to discern certain trends. These trends suggest that we move toward the approach we call health promotion.

Before exploring the practical meaning of health promotion, let us examine in more detail the nature of the health challenges facing Canadians. For the purposes of this document, we shall confine our attention to those challenges deemed to be of national importance. It is anticipated, however, that some communities may find these generic national challenges overridden by problems of a uniquely regional or local character.

Challenge I: Reducing Inequities

The first challenge we face is to find ways of reducing inequities in the health of low- versus high-income groups in Canada.

There is disturbing evidence which shows that despite Canada's superior health services system, people's health remains directly related to their economic status. For example, it has been reported that men in the upper income group live six years longer than men with a low income. The difference is a few years less for women. With respect to disabilities, the evidence is even more startling. Men in upper income groups can expect 14 more disability-free years than men with a low income; in the case of women, the difference is eight years.

Among low-income groups, people are more likely to die as a result of accidental falls, chronic respiratory disease, pneumonia, tuberculosis and cirrhosis of the liver. Also, certain conditions are more prevalent among Canadians in low-income groups; they include mental health disorders, high blood pressure and disorders of the joints and limbs.

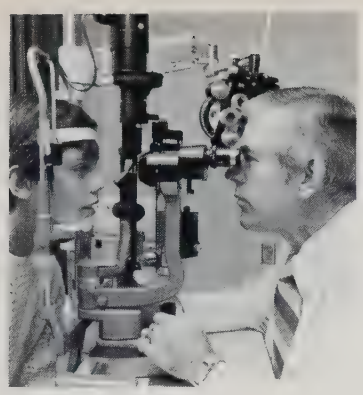
Within the low-income bracket, certain groups have a higher chance of experiencing poor health than others. Older people, the unemployed, welfare recipients, single women supporting children and minorities such as natives and immigrants all fall into this category. More than one million children in Canada are poor. Poverty affects over half of single-parent families, the overwhelming majority of them headed by women. These are the groups for whom "longer life but worsening health" is a stark reality.

So far, we have not done enough to deal with these disparities. As we search for health policies which can take this country confidently into the future, it is obvious that the reduction of health inequities between high- and low-income groups is one of our leading challenges.

Challenge II: Increasing the Prevention Effort

Our second challenge is to find new and more effective ways of preventing the occurrence of injuries, illnesses, chronic conditions and their resulting disabilities.

Prevention involves identifying the factors which cause a condition and then reducing or eliminating them. Immunization and the chlorination of drinking water are prime examples of measures introduced to prevent and reduce the incidence of infectious disease. In the last century, through the efforts of public health, the practice of prevention gained wide acceptance. In fact, many prevention measures we take for



granted today were initiated during the 19th century.

In recent years, the preventive effort has been extended into the area of individual lifestyle and behaviour. The realization that smoking, alcohol consumption and high-fat diets were contributing variously to lung cancer, cirrhosis of the liver, cardiovascular disease and motor vehicle accidents, led us to turn our attention to reducing risk behaviour and trying to change people's lifestyles.

Unfortunately, the causal relationships between behaviour and health are not nearly as clear-cut as they are between "germs" and disease. Today's illnesses and injuries and the disabilities to which they give rise are the result of numerous interacting factors. This means that prevention is a far more complex undertaking than we may at one time have imagined.

In spite of this, there is considerable scope for prevention. Already, children have been among the main beneficiaries. In prenatal and neo-natal care, preventive measures have brought about a marked reduction in infant mortality. Notable progress has also been achieved in preventing learning disabilities, and preventive measures are helping, for example, to overcome the difficulties associated with dyslexia, hyperactivity and speech and hearing impairments. With regard to adults, it is estimated that the use of preventive measures can lead to a future 50 per cent reduction in the incidence of lung cancer and heart disease.

Challenge III: Enhancing People's Capacity to Cope

In this century, chronic conditions and mental health problems have replaced communicable diseases as the predominant health problems among Canadians in all age groups. Our third challenge is to enhance people's ability to manage and cope with chronic conditions, disabilities and mental health problems.

Conditions such as arthritis, hypertension, respiratory ailments, dependence on drugs and chronic depression can all limit people's capacity to work, to take care of themselves, to perform the activities of daily living and to enjoy life.

Canada is experiencing an "age boom", and the number of older people in this country will more than double within the next thirty-five years. Thus, for Canada's older population, coping with chronic conditions and the disabilities to which they give rise, is a particular concern. It is often hard for those seniors who are incapacitated by disabilities to function independently. Everyday tasks, such as taking a shower or opening a jar, become difficult or even unmanageable.

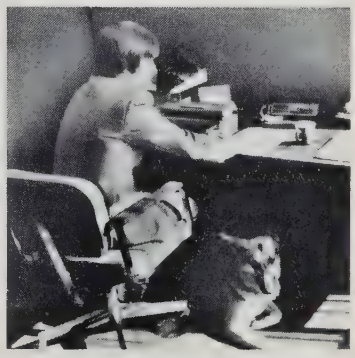
It is particularly important to ensure that people are supported in the area of mental health. Obviously, we cannot afford to diminish our efforts to assist those who are suffering from serious mental illness; however, it is essential that we assign equal priority to helping people remain mentally healthy.

Surveys indicate that many Canadians find their lives stressful. Women are more vulnerable in this regard. The fact that women are prescribed tranquillizers and anti-depressants more than twice as often as men is a telling sign of the emotional strain women are experiencing. For some, it may be the changing and uncertain nature of their role that is unduly stressful. Others may be overwhelmed by the burden of caring for family members, particularly those who are chronically ill or disabled. For both men and women, job burnout is taking an increasing toll. The changing nature of social roles and factors such as unemployment have also had a bearing on the emotional well-being of men, who may encounter health problems including ulcers, dependence on alcohol and depression.

We know that anxiety, tension, sadness, loneliness, insomnia and fatigue are often symptoms of mental stress which find expression in many forms, including child abuse, family violence, drug and alcohol misuse and suicide. Problems associated with mental stress may occur in times of crisis, or be the result of accumulated life circumstances.

Our challenge is to provide the skills and the community support needed by people with disabilities and mental health problems if they are to manage effectively, lead stable lives and improve the quality of their lives. We must also recognize the importance of ensuring that informal care-givers have access to the support they need. Many people, especially women, care for others on a regular basis. The health and capacity of these individuals to manage is no less important than the health of those for whom they care. Homemakers, home care nursing, respite care and postal alert are services which enhance the coping capacity of both those with disabilities and their care-givers.

Reducing inequities, widening the prevention effort and enhancing people's ability to cope are the principal challenges confronting us as Canada enters the 21st century. It is toward these challenges that we must dedicate our efforts and resources.



IV HEALTH PROMOTION AS A RESPONSE

So far, we have described a global, positive vision of health and outlined three health challenges of major national importance. Our ultimate responsibility is to ensure that the health of Canadians is preserved and enhanced, a goal which can only be achieved if each of us can be assured of equitable access to health. It is clear, however, that existing policies and practices are not sufficiently effective to ensure that Canadian men and women of all ages and backgrounds can have an equitable chance of achieving health.

In our quest for solutions to this problem, we asked ourselves two questions: "What mechanisms are needed to effectively respond to the emerging challenges?" and "What strategies or processes can we implement in order to meet these challenges?"

We conclude that these questions can best be answered by a wider application of health promotion. A health promotion approach would, with the necessary effort and resources, integrate easily into the present health system. We believe that just as health care is acknowledged as a cornerstone of the Canadian health system, health promotion is positioned to become another, equally important cornerstone of that system.

People often associate health promotion with posters and pamphlets. This is a simplistic view akin to associating medical care with white coats and stethoscopes. In the words of the World Health Organization, "**health promotion is the process of enabling people to increase control over, and to improve, their health**". It "represents a mediating strategy between people and their environments, synthesizing personal choice and social responsibility in health to create a healthier future".

It is quite true that, until recently, health promotion has relied heavily upon the dissemination of health information, targeting health messages to the public in the expectation that this would somehow bring about the desired changes in people's lifestyles. Although this approach did produce some shifts in attitudes and health behaviour, these have been slight and slow. It became increasingly evident that to be effective, information campaigns should not take place in isolation; they had to be combined with a variety of other activities. Health promotion became a multi-faceted exercise which included education, training, research, legislation, policy coordination and community development. This perspective gained fairly wide acceptance with many professionals and the voluntary community. By the mid 1970s, health promotion activities were becoming more visible in schools, community health services, drug and alcohol commissions and in the workplace.

Less than a decade later, several programs of national scope were in operation. Covering a variety of themes, these major initiatives were the result of cooperative efforts among several levels of government and the voluntary sector. They included ***Dialogue on Drinking;*** the ***Breast-Feeding Program; It's Just Your Nerves***, a program on women's use of alcohol and tranquillizers; ***Time to Quit***, a smoking-cessation program; ***Stay Real***, a drug information program; and ***Break Free***, a recent collaborative initiative aimed at reducing smoking among young people.

Communities and voluntary groups committed to undertaking health promotion activities at the local level were able to tap into financial resources, including federal funding through ***New Horizons***, sustaining grants for voluntary associations, and the Health Promotion Contribution Program. Across Canada, organizations and groups as diverse as the Canadian Institute of Child Health, the Disabled Individuals' Alliance, *Le Centre des Femmes de l'Estrie,* the Alzheimer Society of Canada and many more contributed significantly to this country's growing record of achievement in health promotion.

The experience of the past ten years has confirmed our view that health promotion provides an avenue for dealing with emerging challenges, an approach which supports Canadians in improving the quality of their health. In summary, it offers a means of achieving health for all Canadians.

V THE HEALTH PROMOTION FRAMEWORK

We have taken a backward glance at our efforts in health and assessed our progress. We have looked ahead and seen trends toward serious inequities in health, particularly for disadvantaged groups and coming generations of seniors. We have reviewed ten years of experience in health promotion. Our conclusion is that the health promotion approach offers considerable potential and scope to meet the complex health challenges that face Canadians.

The Framework for Health Promotion described here provides a means of linking the ideas and actions we regard as fundamental to the achievement of health for all, the ***aim*** to which we aspire.

Earlier, we identified the national ***health challenges*** which need to be overcome as we pursue this aim. Other key components of the framework are a set of ***health promotion mechanisms*** and a series of ***implementation strategies***. We now present these mechanisms and strategies, elaborating on their relationship to each other and to the health challenges within the Framework for Health Promotion.

For a visual representation of all these components and the relationships among them, the reader is referred to the diagram entitled "A Framework for Health Promotion".

We believe that the three ***mechanisms*** intrinsic to health promotion are:

- self-care, or the decisions and actions individuals take in the interest of their own health;
- mutual aid, or the actions people take to help each other cope; and
- healthy environments, or the creation of conditions and surroundings conducive to health.

When we speak of ***self-care***, we refer to the decisions taken and the practices adopted by an individual specifically for the preservation of his or her health. An older person using a cane when the sidewalks are icy, a diabetic self-injecting insulin, a person choosing a balanced diet, someone doing regular exercises: these are all examples of self-care. Factors such as beliefs, access to appropriate information, and being in surroundings that are manageable play an important role in such situations. Simply put, encouraging self-care means encouraging healthy choices.

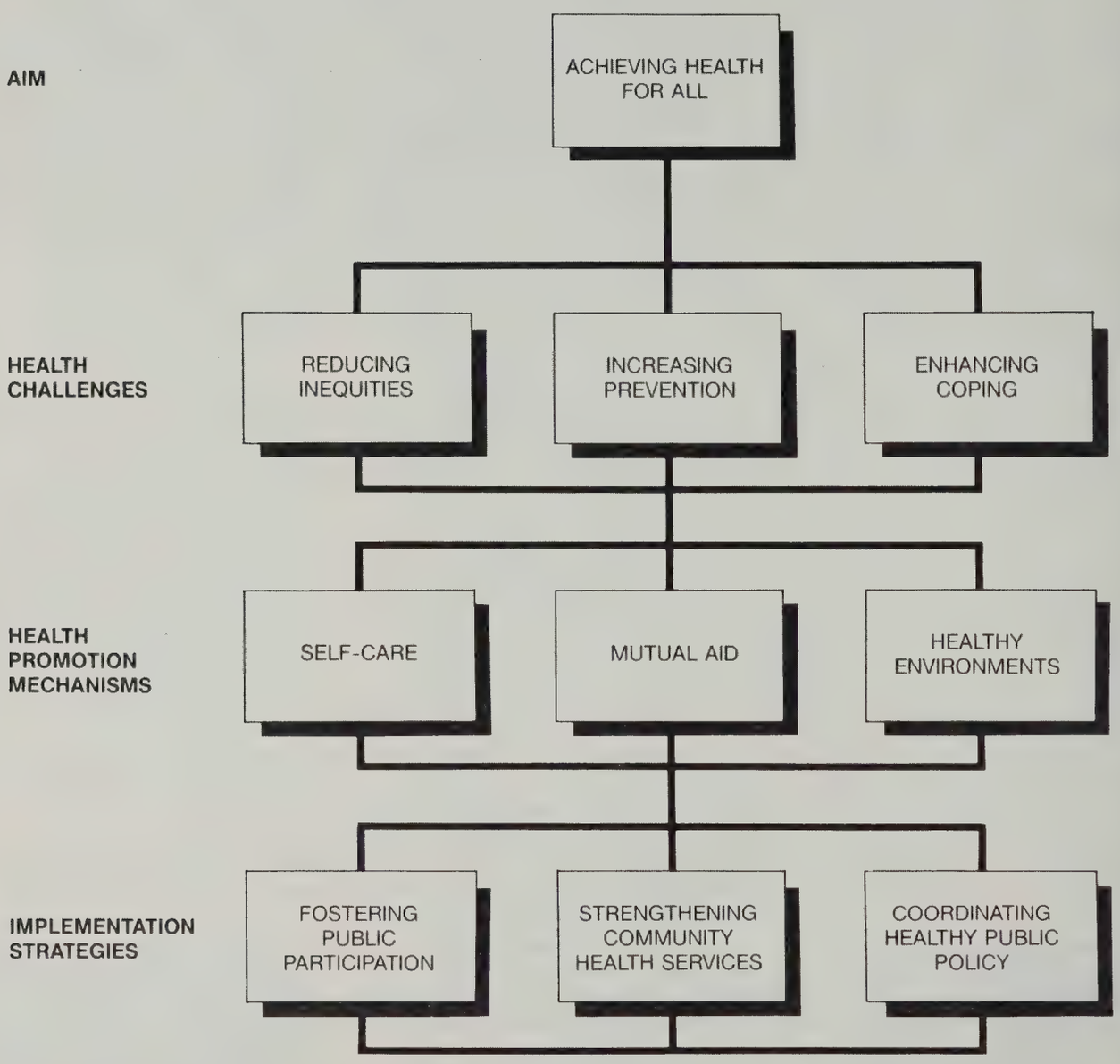
The second health promotion mechanism, ***mutual aid***, refers to people's efforts to deal with their health concerns by working together. It implies people helping each other, supporting each other emotionally, and sharing ideas, information and experiences. Frequently referred to as social support, mutual aid may arise in the context of the family, the neighbourhood, the voluntary organization, or the self-help group.

Informal networks are recognized as a fundamental resource in the promotion of health. There is strong evidence that people who have social support are healthier than those who do not. The value of such support lies in its emotional and practical nature: it enables people to live interdependently within a community while still retaining their independence. A parent with a handicapped child, an older person enduring arthritic pain, an adolescent using drugs: these are people who need not only professional services, but understanding and the sense of belonging that comes with being socially supported.

In Canada, the "self-help movement" provides us with an abundance of illustrations of mutual aid in action. Alcoholics Anonymous (AA), One Voice of Seniors, Block Parents, the Coalition of Provincial Organizations of the Handicapped (COPOH), and rape crisis centres are some examples. Through self-help, people come together to deal with the consequences of being unwell, overburdened, bereaved, disabled, or in a situation of crisis.

The third health promotion

A FRAMEWORK FOR HEALTH PROMOTION



mechanism is the ***creation of healthy environments***. This means altering or adapting our social, economic or physical surroundings in ways that will help not only to preserve but also to enhance our health. It means ensuring that policies and practices are in place to provide Canadians with a healthy environment at home, school, work or wherever else they may be. It means communities and regions working together to create environments which are conducive to health.

From this perspective, the environment is all-encompassing; the concept of boundaries is inappropriate when we speak of the promotion of health. The environment includes the buildings where we live, the air we breathe and the jobs we do. It is also, for example, the education, transportation and health systems. Because of the breadth and scope of the environment thus understood, environmental change becomes by far the most complex and the most difficult of the three mechanisms or kinds of action required for the promotion of health.

The public sector and others are already engaged, to varying degrees, in encouraging people to care for themselves, to come together for mutual support, and to change the circumstances and surroundings which act as barriers to the achievement of health. Yet, to the extent that there are in place policies and practices which support the concept of health promotion, these tend to be implicit rather than explicit. In most instances, they are not the result of deliberate strategic planning. In our view, it is time to clearly articulate a direction which is designed expressly to promote the health of Canadians.

To do so means establishing a set of strategies, the implementation of which will enable us to attain our aim of achieving health for all. At the 77th Annual Conference of the Canadian Public Health Association, we presented six strategies for health promotion: ensuring access to health information; encouraging consensus about particular health ideas; initiating research in support of health promotion; fostering public participation; advocating a strong role for the health care system, particularly for community health services; and coordinating policies between sectors.

Of these six strategies, there are three which provide a central focus, and under which the others can be subsumed. In our view, the leading ***strategies*** or processes whereby we can act decisively in response to the health challenges confronting Canada are:

- fostering public participation;
- strengthening community health services; and
- coordinating healthy public policy.

Let us explore the strategies which we are proposing as a basis for action in the field.

Strategy I:
Fostering Public Participation

Health promotion means ensuring that Canadians are able to act in ways that improve their own health. In the national quest for health, people constitute a major resource, both individually and in groups. Our experience confirms that people understand and are interested in the circumstances and events that influence their health. We know that they are seeking opportunities to take responsibility.

Encouraging public participation means helping people to assert control over the factors which affect their health. We must equip and enable people to act in ways that preserve or improve their health. By creating a climate in favour of public participation, we can channel the energy, skills and creativity of community members into the national effort to achieve health.

The enduring impact of public participation on health is well documented. In the Vancouver "Be Well" program, a network of seniors established a self-help model to encourage participants to preserve their own health. Crocus Co-operative in Saskatoon offers programs and counselling for post-mentally ill adults. In Quebec, a multi-ethnic association provides information and assists handicapped children and adults in making use of services. The Canadian Sickle Cell Society has grown from a handful of volunteers into a national organization dedicated to educating, testing and counselling Canadians affected by sickle cell anemia. In a small rural Ontario community, seniors came together to organize meal services, friendly visiting and home help for their less able older neighbours.

These examples illustrate how fostering public participation can help us respond to one of our leading challenges, that of enhancing people's capacity to cope. We could, in fact, take any of the national challenges and produce evidence that endeavours

initiated by the public can provide effective responses to health concerns. The conclusion is inescapable: public participation is not only valuable, but essential to the achievement of health for all Canadians.

Strategy II:
Strengthening Community Health Services

Community health services are already playing an indispensable role in preserving health. We believe that there should be an expansion of this role and that it should be expressly oriented toward promoting health and preventing disease. At the same time, we recognize that adjusting the present health care system in such a way as to assign more responsibility to community-based services means allocating a greater share of resources to such services.

A health promotion and disease prevention orientation means that community health services will have to focus more on dealing with the major health challenges we have identified. For example, it assumes that there will be a greater emphasis on providing services to groups that are disadvantaged. It further takes for granted that communities will become more involved in planning their own services, and that the links between communities and their services and institutions will be strengthened.

In these ways, community health services will become an agent of health promotion, assuming a key role in fostering self-care, mutual aid and the creation of healthy environments. This will involve coordinating programs much more closely with those of social services in order to maintain momentum in the health promotion effort. Given the present range of their responsibilities, it is only logical that community health services should play this expanded role in promoting the health of communities.

We consider it especially important that community health services become more active in helping people to cope with disabilities. If people are to manage effectively, there must exist a continuum of care which is flexible enough to meet their needs for support - whether temporary or long term - without making unnecessary, and perhaps unsettling changes in their lives. To accomplish this, it is vital that there be coordination of available services. Community health services provide a natural focal point for coordinating services such as assessment, home care, respite care, counselling and the valuable work of volunteers.

People who are trying to cope with mental health problems would also benefit from the strengthening of community health services. While psychiatric treatment services clearly remain appropriate for the seriously ill, those who are finding it difficult to manage because of life circumstances could be assisted and supported by community health services.

For all those seeking to take responsibility for their own health, whether in groups or as individuals, community health services are well situated to assume a far more prominent role in the health promotion effort.

Strategy III:
Coordinating Healthy Public Policy

The potential of public policy to influence people's everyday choices is considerable. It is not an overstatement to say that public policy has the power to provide people with opportunities for health, as well as to deny them such opportunities. All policies, and hence all sectors, have a bearing on health. What we seek is healthy public policy.

We believe that health promotion is an appropriate way of achieving our ultimate aim, that of equitable access to health. We know that self-care, mutual aid and healthy environmental change are integral to health promotion, and that they are more likely to occur when healthy public policies are in place. Policies that are healthy help to set the stage for health promotion, because they make it easier for people to make healthy choices.

All policies which have a direct bearing on health need to be coordinated. The list is long and includes, among others, income security, employment, education, housing, business, agriculture, transportation, justice and technology. It will not be an easy undertaking to coordinate policies among various sectors, all of which obviously have their own priorities. We must bear in mind that health is not necessarily a priority for other sectors. This means that we have to make health matters attractive to other sectors in much the same way that we try to make healthy choices attractive to people.

Conflicting interests may exist between sectors. Such conflicts are intrinsic to our society. Take the example of tobacco. We are proponents of a smoke-free environment. On the other hand, there are Canadian farmers who cultivate this product for their livelihood. Changes in tobacco policies have implications for farmers and smokers alike. In this instance the creation of healthy public policy necessitates responding to a situation with serious health as well as economic implications.

The federal government has already begun the process of creating a healthy public policy on tobacco. In October 1985, a cooperative national program to reduce smoking was endorsed by the federal and provincial/territorial Ministers of Health and seven non-government organizations. There have also been consultations with the federal departments responsible for agriculture, justice, transport, revenue, and with the Treasury Board. As a result, several of these departments are now reviewing their policies in relevant areas, such as smoking in the workplace, crop substitution, tobacco marketing practices and smoking on public transportation.

Impaired driving is another issue which is leading to inter-governmental coordination at the provincial and federal levels. From a health promotion perspective, the responsibility is to make it socially unacceptable for people to drive while under the influence of alcohol, and to reduce the often tragic consequences of doing so. Other equally important responsibilities include amending the criminal code, improving road safety, making police enforcement more efficient and controlling the availability of alcohol. In this context, coordinated changes to public policy are being achieved through consultation and consensus among the federal departments of Health and Welfare, Justice, Transport and the Solicitor General, and their provincial counterparts.

Tobacco and impaired driving are only two examples of attempts to ensure that public policy is coordinated. The fundamental point is, however, that for public policies to be healthy, they must respond to the health needs of people and their communities. This is so whether they are developed in government offices, legislatures, board rooms, church halls, union meetings or centres for seniors.

The mutually-reinforcing strategies, taken together with the mechanisms, comprise the basic elements of the Health Promotion Framework. It is important to state that one strategy or mechanism on its own will be of little significance. Only by putting these pieces together, assigning resources, and setting priorities, can we be certain that health promotion carries meaning and comes alive. We believe the approach we propose allows us to respond effectively and ethically to current and future health concerns.

VI CONCLUSION

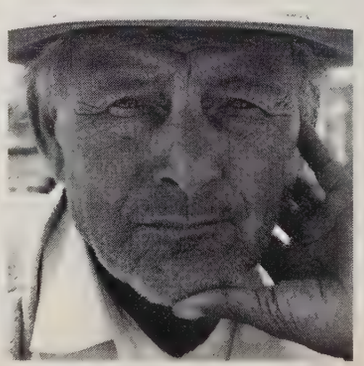
This, then, is our proposal for a health promotion framework: a vision of health as a dimension of the quality of life; an articulation of the current and future health challenges confronting this country; an understanding of health promotion as a process enabling people to increase control over their health; an identification of three mechanisms which can "energize" health promotion, and, finally, an elaboration of the three implementation strategies which we believe will make it possible for all Canadians to achieve equitable access to health.

In summary, health promotion implies a commitment to dealing with the challenges of reducing inequities, extending the scope of prevention, and helping people to cope with their circumstances. It means fostering public participation, strengthening community health services and coordinating healthy public policy. Moreover, it means creating environments conducive to health, in which people are better able to take care of themselves, and to offer each other support in solving and managing collective health problems.

There is a certain timeliness about health promotion. The signs are evident across the country. Regional boards of health, professional organizations, provincial and national councils and voluntary associations are all articulating policies that support the concept of health promotion. The most convincing evidence is the voice of public support. People everywhere are demonstrating a willingness to act on matters of health. Each year, for example, federal funding programs receive thousands of applications for resources to be used in community health projects. Low-income women, seniors, native people, the disabled, immigrant groups and many others are expressing their own ideas on the health needs of their communities, as well as their eagerness to find ways of meeting those needs.

We are aware that there are certain dilemmas inherent in health promotion. For example, we cannot invite people to assume responsibility for their health and then turn around and fault them for illnesses and disabilities which are the outcome of wider social and economic circumstances. Such a "blaming the victim" attitude is based on the unrealistic notion that the individual has ultimate and complete control over life and death.

Secondly, there is the question of allocating resources during times of scarcity. The availability of financing is obviously a critical question for each of us. Canada has performed fairly well in controlling the growth of health care costs; however, cost control is a matter of continuing concern. The pressures created by an aging population and the growing incidence of disabilities in our society will take a



heavy toll on our financial resources. We believe, however, that the health promotion approach has the potential over the long term to slow the growth in health care costs.

Every day, individual Canadians face difficult situations. We see unhappy pregnant teenagers, abused children, women who are depressed, seniors who are lonely, men in midlife incapacitated by heart disease, and people suffering from incurable diseases such as multiple sclerosis or arthritis. There is, however, another side to this story. We also see transition homes, family counselling, drug treatment centres, self-help groups, efforts in the workplace to hire the disabled and, above all, people moving voluntarily to help themselves and to reach out to others. This is what we want to see and this is what we want to encourage.

The Health Promotion Framework helps us formulate ways of dealing with day-to-day health issues. We can use it to visualize the kinds of mechanisms and strategies that are needed to support and encourage Canadians as they strive to live healthy, full lives. The framework links together a set of concepts, providing us with a particular way of thinking about and taking action toward achieving our aim of health for everyone in this country. Above all, health promotion is an approach which can develop alongside and be integrated into our sophisticated system of health care. Already, in our private and professional lives, many of us are thinking and behaving in ways that are consistent with the concept of health promotion.

It will take time to give meaning to health promotion. A vital element in the process will be nationwide discussion. This will enable Canadians to assess the implications of health promotion. The body of knowledge and experience is accumulating rapidly: individuals and groups in many parts of the country are already familiar with the approach we are calling health promotion.

We have the foundations upon which to build. Let us continue our efforts to achieve health and improve the quality of life of the people and communities of Canada.

Briefly

The Ontario Dental Association is once again calling for persons wishing to present clinics at the ODA Annual meeting, taking place in Toronto, May 8-11, 1988.

There are currently 27 places available, and the deadline for applications is November 30, 1987. Mini-clinics are 40 minute presentations, while Table Clinics are 15 minutes in length. The following information has to be provided in the application: whether the presentation is a Mini Clinic or a Table Clinic; exact title of the presentation; brief abstract of the presentation (200 words); brief biography of the presenter (30 words); and the preference of presentation date and time.

Mini clinics will be held May 9th from 2:30 to 4:30 pm, and May 10th from 9:00 am to 11:15 am and 2:30 pm to 4:30 pm. Table clinics will be held May 9th and 10th, 1988 from 2:30 to 4:30 pm each day.

Please submit applications with the above information to: Diana Thorneycroft, ODA Headquarters, 234 St. George St., Toronto, Ontario, M5R 2P1.

In some European countries, the overabundance of dentists is still an acute problem.

In the Netherlands, the FDI has reported there are about 500 unemployed dentists, or about 10 per cent of the dental workforce.

The Netherlands Dental Association has developed an active policy to relocate Dutch dentists in some of the countries where there is a shortage of dentists.

Also, Dr. Peter Hanedoes of the Netherlands Dental Association told an FDI meeting recently, active dentists in his country are finding employment within their practices for their young unemployed colleagues. The move, he said, is basically to help them maintain their skills.

A world-wide forensic dentistry survey is being conducted by the FDI Commission on Dental Education and Practice (CDEP).

A questionnaire to determine forensic dental services has been prepared by CDEP's Working Group on Forensic Dentistry and has been sent to all national dental associations, covering some 75 countries, which are members of the FDI.

The survey asks whether dentists in each of these countries are called upon by authorities such as police departments, to provide forensic dental service, and which branch of the profession does so.

The questionnaire is also intended to reveal plans for providing forensic dental services in the event of a mass disaster.

The extent to which the FDI/ISO Two-Digit System for Tooth Designation has so far been adopted around the world should also be revealed by the responses to the questionnaire.

The Fédération Dentaire Internationale (FDI) will be holding its Annual Session in Buenos Aires, Argentina, October 24-30, 1987. In 1988, the date is October 8-13, and the location is Washington, D.C. in the United States.

Locations are currently available for FDI meetings until 1994, but dates have yet to be confirmed. For the information of our readers, the FDI meeting locations after 1988, are as follows: 1989: Amsterdam, Netherlands; 1990: Singapore; 1991: Rome, Italy; 1992: West Germany, (city to be named); 1993: Gothenburg, Sweden and 1994: Vancouver, British Columbia.

Watch the Journal for further information on upcoming FDI meetings.

The Fédération Dentaire Internationale (FDI) reports that special AIDS dental clinics have been established in Britain and the United States, to treat AIDS patients.

The Whitman-Walker health clinic in Washington, D.C., has announced the opening of the first such facility in the United States. This clinic stated that it will not hire its own staff dentist, but will rely on volunteers.

In the UK, hundreds of AIDS and hepatitis patients are already receiving treatment in a special sterile clinic at the dental hospital in Edinburgh, Scotland.

In these clinics, all the fittings and surfaces in the special surgery, from the dentist's light to the patient's chair, are covered in polythene. The dentists wear plastic aprons, disposable gowns, caps, masks, goggles and gloves. When treatment has been completed, the polythene covers and disposable clothing are incinerated.

The Chicago Dental Society is reported to be seriously considering setting up an AIDS patient clinic, because, the Society states, so many dentists refuse to treat them.

The clinic would also be staffed by volunteer dentists.

The Society President Dr. Bernard Grothaus said that one reason patients were having difficulty is that dentists might feel unable to provide a sterile office environment for AIDS patients.

There have been recent administrative changes relating to continuing education in the Faculty of Dentistry at Dalhousie University and the result is a new title and new responsibilities. This office is now called "Alumni Affairs and Continuing Education."

Dr. Don Cunningham has been appointed Assistant Dean for Alumni Affairs and Continuing Education. Dr. Cunningham is also Director of Clinics and former head of the Division of Pedodontics.

Kate MacDonald has been appointed as full-time Director of Alumni Affairs and Continuing Education. Kate is a former Director of the school of Dental Hygiene. Both of these new officials would be interested in receiving ideas about continuing education and alumni activities.

The Continuing Education office was reopened in July after being closed for the two previous months. Debra Lavigne, the new administrative secretary, assumed her duties on July 13.

The Royal College of Dentists of Canada has issued a call for papers for the K.J. Paynter Memorial Symposium, to be held on Monday, August 22, 1988, in con-

junction with the Canadian Dental Association Convention in Edmonton, Alberta (August 21-24, 1988).

Abstracts are invited for consideration. The theme of the Symposium is *Cranio-Mandibular Function and Dysfunction*.

The format of the one-day meeting will be several (15) short (20 minutes) papers, covering as many aspects of cranio-mandibular function and dysfunction as possible.

The four main divisions are:

Basic anatomy
Bio-mechanics of the joint
Imaging and other diagnostic criteria
Intervention — a) non-surgical
b) surgical

Abstracts must be submitted on official abstract forms. These may be obtained from the Royal College of Dentists of Canada's national office. They will be accepted from any member of the dental profession or allied health professions and must be submitted by October 30, 1987. Authors will be notified of acceptance in January, 1988.

The address, for abstract forms and submissions, is:

The Royal College of Dentists of Canada,
67 Berkeley Street, Toronto, Ontario
M5A 2W5.

Because of the gradual increase in numbers of people with AIDS and those infected with HIV, in Ontario, more health care workers will be caring for these people and those who are concerned about possible exposure to HIV.

An Ontario Ministry of Health bulletin states that originally over 80 per cent of the AIDS cases were in the Metro Toronto area but by June of this year, the distribution pattern has shown a distinct change. Now about 60 per cent of the cases are in the Toronto area and the numbers in other parts of the Province have risen to 40 per cent.

Because of the increasing concern among health care workers and hospital personnel about possible occupational exposure, the Provincial Advisory Committee on AIDS has recently revised the publication, "Understanding AIDS and HIV Infection: Information for Hospitals and Health professionals."

Copies of the publication are available free of charge from the Ministry of Health, Health Information Centre, 9th Floor, Hepburn Block, Queen's Park, Toronto, Ontario, M7A 1S2.

Dr. R.M. MacMillan, Assistant Deputy Minister, Community Health, has also invited those with any inquiries about AIDS or HIV infection to call the AIDS line in the Disease Control and Epidemiology Service of the Ontario Ministry of Health: 1-800-268-6066.

DENTAL AWARENESS PROGRAM UPDATE
FIRST TEETH

Colgate's Commitment

Sponsorship for the *Dental Awareness Program* just keeps on growing.

Colgate has become the exclusive sponsor of an educational and motivational program on *First Teeth* with a generous commitment of $500,000 a year for the next three years and an option to renew.

First Teeth is the first effort of the *Dental Awareness Program* to deal specifically with the issues of the child's primary teeth. Although the *Dental Awareness Program* will continue to be geared towards adult dental health, it is essential that parents realize that cavities need no longer be a fact of the child's life.

According to Dr. David Kenny, Dentist-in-Chief at Toronto's Hospital for Sick Children and an adviser to the First Teeth project, "this program will provide the first national focus to this long-time national concern. It will offer the continuity in educational materials for parents of young children that has been needed for so long."

Extensive research was undertaken to ensure the program's success. A battery of dental consultants (dentists, hygienists & assistants) were tapped to create an innovative and multi-faceted program. Included in the program: a book for parents; a *Growth Chart* for the child; a dental office poster and a comprehensive office programming kit for the dental team.

Launch in January

Like many programs, implementation is everything. We will provide a comprehensive programming guide to help out. It will explain the elements of the program and provide helpful hints for you and your team on how to most effectively communicate the program's message to patients.

The launch is scheduled for early 1988. It is sure to be exciting and impactful with national advertising scheduled for the February and March issues of Chatelaine magazine. The advertisements will encourage the public to ask about the program during their next visit to the dental office.

You will hear more about the program and how to order materials as we move through the fall. Don't forget to order your own supply of *First Teeth* materials to help your patients keep their child's teeth *Good For Life*.

Regretful Goodbye

This fall CDA bids a regretful goodbye to Doctors Yosh Kamachi, Terry Koltek, and Richard Howaniec who leave the *Council on Information Services* after many years of dedicated service. During their term, the *Canadian Dental Association* undertook a bold new approach to its communication's effort.

The launch of the *Dental Awareness Program* was the first comprehensive public education effort. And, yet another first for the CDA, the services of a professional marketing firm were acquired to help add consistency and polish to the new program's effort.

In the words of Dr. Yosh Kamachi, the out-going Chairman of the *Council On Information Services*:

> *"The Dental Awareness Program and Dental Health Month have progressed remarkably over the course of my term. With the help of Manifest Communications, the program has taken off in an ethical and wholly professional manner.*
>
> *Progress has been made in areas that we had once never even considered; the assistance and relationships that we have built with provincial and local associations, and the sponsorship that we have gained from the large corporations has been instrumental in the program's success.*
>
> *While I am going to miss my work with the Council, I leave with great feelings about the work that has already been done and the knowledge that the right people and the right direction are in place to continue the success for years to come."*

To all three, goodbye and thank you.

DENTAL HEALTH
LET'S KEEP IT
Good For Life™
CANADIAN DENTAL ASSOCIATION

DO UNTO OTHERS

Recommending a therapeutic oral rinse to fight plaque and prevent gingivitis is not the exception. It's the rule. So a complete oral hygiene program should include the use of Listerine Antiseptic.

Clinical studies show that using Listerine Antiseptic twice a day reduces plaque build-up from 20-50% compared to brushing alone.[2,3,4] Studies also confirm that it significantly reduces and helps prevent gingivitis as compared with vehicle and water control rinse scores.[1]

So in addition to regular check-ups, brushing and flossing, recommend Listerine Antiseptic to your patients. When it comes to reducing plaque and preventing gingivitis, make Listerine Antiseptic the golden rule.

References: **1.** LAMSTER, I., et al.: Clin. Prev. Dent., 6:12 (1983). **2.** MENAKER, L. et al.: Ala. J. Med. Sci., 16:71 (1979). **3.** ROSS, N.M., et al.: Warner-Lambert research report #955-0875 (1976). **4.** YANKELL, S.L., et al.: Warner-Lambert research report #955-0893 (1976).

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Letters

CONGRATULATIONS ON ROSEN ARTICLE

I was pleased and heartened to read the excellent article by Dr. Louis Rosen on 'Responsibilities'. (JCDA, No. 7, 1987, pg. 528) And as one who had the good fortune to have known him for many years, I can only say how well the article reflected his personal approach to dentistry. He made the name 'Dr. Louis Rosen' a 'good' name, to both patients and fellow practitioners.

Dr. Wallace F. Walford
Hudson, Quebec

RE: DENTISTRY WITH A HEART: JCDA NO. 6, 1987

On page 430, JCDA, No. 6, 1987 – one question – where is this man's "Barrier Technique"? If governments and the media can advertise safe sex and condoms, then certainly *our* Journal should be promoting safe practice to its readers.

There are still entirely too many in our profession who are not looking after themselves, their staff and patients properly according to published infection control guidelines.

We must do everything we can to bring our profession up to current standards of practice and our publications are a great place to begin.

Thanks for listening.

R.B. Abrams, DDS, MRCD(c)
Clinical Director
Oral Medicine & Surgery
Alberta Childrens' Hospital
Child Health Centre
Calgary, Alta.

FILM REVERSING HAZARDS

A problem whereby the identifying bubble on dental x-ray film can no longer be relied upon to determine the left or right sides of the patient is occurring because a major film manufacturer is marketing duplicating film in periapical film size with a raised dot.* While the manufacturer's recommended procedure is to place the emulsion side of the duplicating film in contact with the film to be copied, a duplicate can still be made if the copy film is reversed.

Normally, the reversal of duplicating film in sheet form, a common dark room error, does not cause a problem because the dentist must specifically mark left and right after the film is duplicated. However, with raised dots on regular size 2 duplicating film, dentists can accidentally believe that the film is an original, not realizing that it is reversed.

Aside from the difficulty of reviewing personal injury cases with this error, additional ramifications include body identification and more significantly, potential malpractice liability. The dentist relying on the bubble to determine left and right can accidentally treat the wrong side of the mouth.

Until this problem is resolved, the use of conventional sheet duplicating film should be encouraged. Thank You.

*Kodak X-Omat *Size 2* Duplicating Film $1\text{-}^{1}/_{4} \times 1\text{-}^{5}/_{8}$.

Haskell Askin, DDS
Diplomate American Board of Forensic Odontology
Past President
American Society of Forensic Odontology
1011 State Highway 70
Brick Town, N.J. 08724

RE: QUALITY OF COMPLETE DENTURES – JCDA, NO. 7, 1987

With reference to the article on Complete Dentures (Knazan, McCarthy – JCDA July/87) this is a dilemma which I suggest can be improved in several ways; but we must first accept the premise, that full denture construction *is* the most difficult discipline in dentistry.

I suggest the following:

1) A more positive interest in denture construction at a time when we are being told that in other aspects of dental care we are catching up to the needs of the population. There is a need to take responsibility to serve an increasingly aging population which is seeking comfort and function.

2) Post-graduate courses. Research is not all necessarily new development but may involve better understanding of old techniques. I think full denture construction is understood today to be more than just "good impressions and proper occlusion". (Ref: My school day 1949-53)

3) A willingness to work more closely with the legitimate laboratories, to educate them to newer concepts of denture construction (which only a professional can do), to participate in some laboratory procedures ourselves, and, especially, a willingness to learn from the mistakes of others in the unsatisfactory dentures of our patients.

I would very much like to form a full denture study club for an exchange of ideas and information on this subject. I would, in this context, be very pleased to hear of first-hand experiences from dentists or lab technicians who themselves are denture wearers.

I think patients are becoming disillusioned with the service provided by denturologists and it is time to show some leadership in this matter. THE PROBLEM IS BACK IN OUR HANDS.

David Zacharin, DDS
Montreal, Quebec

Editor's Note: *Dr. Zacharin can be contacted at 5165 Queen Mary Rd., Montreal, Que. H3W 1X7 for those interested in a Study Club.*

RE: ORAL LEUKOPLAKIA: A COLLECTIVE STUDY

As much as I enjoyed reading about Oral Leukoplakia in Vol. 53, No. 7 of the C.D.A. Journal, I found the associated full color picture on the front cover distasteful.

I realize the importance of both the practitioner and patient understanding the full significance of oral lesions, but graphic pictures should be displayed inside the journal only.

Let us keep the front cover for pictures and messages portraying a non-alarming, positive approach to dentistry. Many dentists do allow their patients to view current professional journals and I feel we should use the front covers to promote topics everyone can appreciate and understand.

Dr. Andrew H. Miller
Calgary, Alberta

Editor's Note: *The Journal's front covers are the subject of ongoing discussions at the Publications Committee. We thank Dr. Miller for his comments.*

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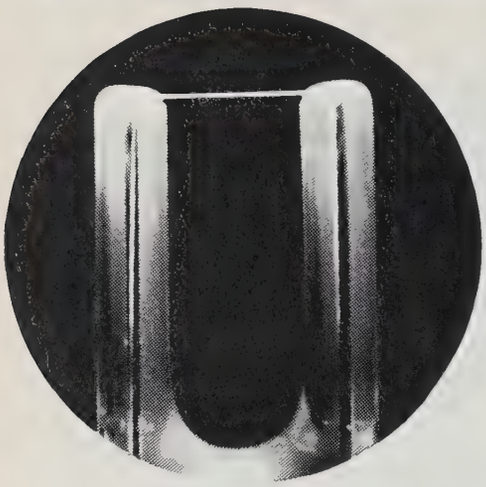
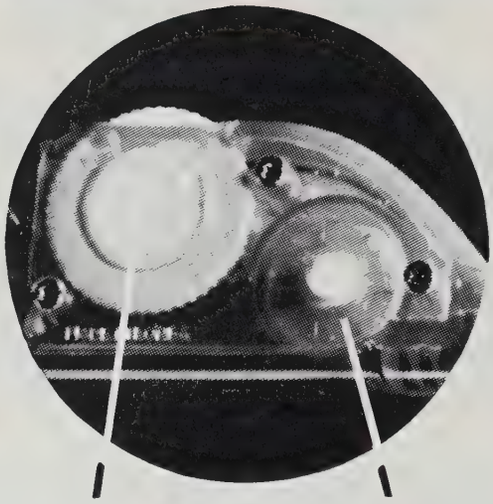


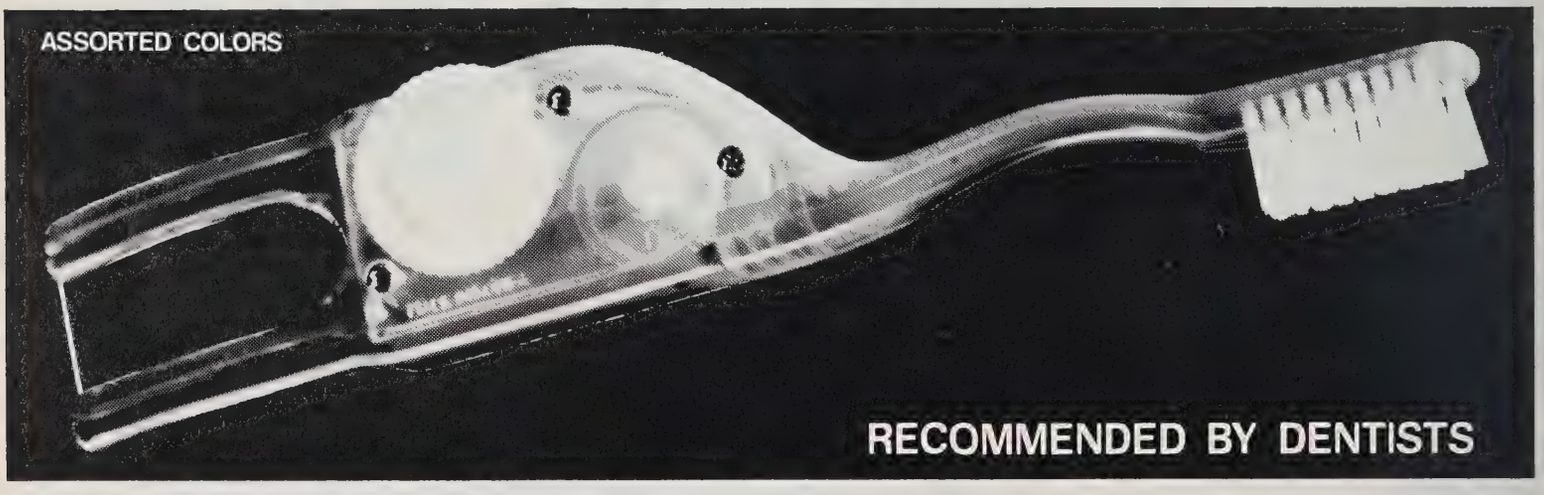
FLOSSING DEVICE



TENSION WHEEL

PUSH BUTTON

SOFT BRISTLES



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CURRENT REGULATORY STATUS OF DENTAL IMPLANTS IN CANADA

Since April 1, 1983 all new implantable devices have been subject to premarket review and must obtain a Notice of Compliance before being sold in Canada. This may be obtained by submitting to the Director, data substantiating safety and efficacy of the device. (See Appendix I for those devices that have submitted data on safety and efficacy and have received a Notice of Compliance).

However, from time to time some products enter the market without going through the proper regulatory process. Recent concerns regarding dental implants being sold in Canada have prompted the Branch to request safety and efficacy data from all manufacturers in this device class (Appendix II). This data is requested under Section 28 of the Medical Devices Regulations from those manufacturers who were selling their products prior to the implementation of the implant regulations (Appendix III).

Individuals wanting to know the status of a new product or wanting to have a copy of the Medical Devices Regulations, may address their inquiries to Premarket Review, Division of Clinical Assessment, Health Protection Branch, Health and Welfare Canada, Environmental Health Centre, Tunney's Pasture, Ottawa, Ontario, K1A 0L2, or call (613) 954-0386.

APPENDIX I

The following manufacturers have provided data on safety and efficacy and have permission to sell their products in Canada:

Manufacturer: Interpore International Inc.
Device: Interpore IMZ Implant System
Notices of Compliance Issued January 6, 1987.

Manufacturer: Nobelpharma Canada Inc.
Device: Biotes Osseointegration Dental Implant System
Notices of Compliance Issued October 30, 1986 (non-sterile), and June 30, 1987 (sterile).

Manufacturer: Anchor Implant Ltd.
Device: Anchor Dental Implant System
* Clinical Trial Status granted until September, 1988.

* Permission to sell to designated investigators only.

APPENDIX II

Sample Letter

Environmental Health Centre
Tunney's Pasture
OTTAWA, Ontario

To: All Manufacturers of Dental Implants

You are hereby requested, in accordance with Section 28(1) of the Medical Devices Regulations, to submit to me, on or before October 31, 1987, evidence in respect of the product in question, distributed by you in Canada.

This information should include evidence to establish the safety and efficacy of the device under the conditions of use recommended and the effectiveness of the device for the purposes recommended.

A copy of the Medical Devices Regulations and the "Guide to the Preparation of a Submission Pursuant to Part V of the Medical Devices Regulations" are enclosed to aid you in preparing your submission.

E. Somers
Director General
Environmental Health Directorate

APPENDIX III

The following manufacturers have notified sale of their devices prior to April 1, 1983 and have been requested to now provide data on safety and efficacy in accordance with Section 28(1):

Manufacturer: Core-Vent Corporation
Device:
Core-Vent Implants 3.5, 4.5 and 5.5 mm (non-sterile)
Core-vent Attachment and insert (non-sterile)
Titanium Coping Insert (non-sterile)
Polysulfone Attachment and Coping Inserts (non-sterile)

Manufacturer: Kyocera International Inc.
Device:
Bioceram Implant Kits (Screw type)
Bioceram Dental Implants (Blade type)

Manufacturer: Miter Inc.
Device:
Synthograft
Titanaloy Implants
Titanaloy Submersible Implant System
Synthdont Implants

Manufacturer: Synthes of Canada Ltd. of Synthes Maxillofacial
Device:
ITI Oral Implant Systems

Manufacturer: Cook-Waite Laboratories Division of Sterling Drug Ltd.
Device:
Periograf Periodontal Bone Grafting Implant

(This vital information has been provided for release in JCDA by the Health Protection Branch, Health and Welfare Canada.)

Sole distributor for
USA and Canada: **Pfingst** & COMPANY, INC.

University of Alberta
Edmonton

Faculty of Dentistry
Academic Position (Tenure-Track)

Applications are invited for a full-time academic position (tenure-track) in the Division of Diagnosis, Department of Stomatology. Candidates should possess graduate education in either Diagnosis, Periodontics or Prosthodontics with an interest in Diagnosis and Treatment Planning. Responsibilities include pre-doctoral classroom and clinical teaching in the areas of patient screening, emergency treatment and diagnosis; and research and scholarly activity. Applicants should be eligible for licensure in the Province of Alberta. Intramural private practice facilities and staff available. Rank and salary will be commensurate with experience; Assistant Professor ($31,612 - $45,340) or Associate Professor ($39,620 - $57,236).

Applications, to be received no later than December 31, 1987, including a curriculum vitae and the names of three referees, should be sent to:

Dr. C.G. Baker, Chairman
Department of Stomatology
University of Alberta
Edmonton, Alberta Canada
T6G 2N8

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Book Reviews

DENTAL LABORATORY PROCEDURES

R.M. Morrow, K.D. Rudd and J.E. Rhoads

C.V. Mosby Toronto, $231.00 (3 volumes)
Vol. 1 565 pages; Vol. 2 489 pages;
Vol. 3 685 pages

This three volume edition provides an extensive treatment of basic prosthodontic laboratory procedures. Volume one deals with complete dentures, volume two describes fixed partial dentures and volume three has, as a topic, removable partial dentures.

Laboratory techniques for prosthetic dentistry have evolved over decades, often with many different approaches resulting in the same end product. The scope of knowledge established to deal with the wide variety of materials and desired prostheses is enormous. The authors have chosen a cookbook style of presentation liberally supported with pictures to deal with the challenge of presenting such a large amount of specific information. To the authors' credit, this type of format works exceptionally well. Step by step procedures are complemented in detail by appropriate pictures to clarify the fine points of each process being discussed. This style of presentation extends over 1500 pages with literally thousands of photographs.

Volume I, Complete Dentures, deals with all aspects of complete denture laboratory techniques including, dentist – technician communication; preliminary impressions; impression trays; final impressions; baseplates; occlusion rims; articulation; waxing; processing and finishing; relines; repairs; immediate dentures; soft liners and maxillofacial procedures. Routinely, several alternative methods for each step in the fabrication of complete dentures are shown. In addition, and extremely helpful, is a table which is provided for each step to indicate what problems may arise with that particular laboratory procedure.

Volume II, Fixed Partial Dentures, describes impression materials; casts; dies; mountings; diagnostic procedures; tooth morphology; preparation design; castings; colour; porcelains; attachments; provisional crowns; repairs; and diagnostic and treatment appliances.

It is more difficult to thoroughly cover the laboratory procedures in fixed prosthodontics. Indeed many chapters in this volume have provided enough interest to have entire books written on their subject matter. This volume does, however, provide a good basic background for most procedures as they relate to fixed partial dentures.

Volume III, Removable Partial Dentures, discusses impressions; bases; registration; mounting; survey and design; duplication; waxing and casting; tooth arrangement; flasking; finishing; relines; repairs and attachments plus other topics. The authors have discussed the components of partial dentures and the basics of design but have not tried to provide a discertation on individual case presentation and design. That topic is difficult to handle in texts dealing with treatment of partially edentulous patients and has wisely been avoided.

A cookbook style supported with pictures and trouble shooting charts make this extensive three volume collection a very effective reference for prosthetic laboratory procedures. It is highly recommended for dental schools and students as reference material to provide a clear and rapid source of laboratory techniques. It may also be of benefit to dentists interested in prosthetic dentistry to provide them with an understanding of what is feasible from a dental laboratory and the level of quality that can be attained.

This book was reviewed by
Dr. Kenneth S. Habel
a Prosthodontist at University Hospital,
London, Ontario

THE CLINICAL MANAGEMENT OF BASIC MAXILLOFACIAL ORTHOPEDIC APPLIANCES VOLUME I MECHANICS

John W. Witzig and Terrance J. Spahl

P.S.G. Publishing Company Inc.,
Littleton, Massachusetts, 1986
500 pages
667 illustrations

The bulk of the subject material contained within this book is a conversational narrative (written by Dr. Spahl) of Dr. Witzig's philosophy of Functional Jaw Orthopedics and his clinical manipulation of orthopedic and orthodontic appliances based on his clinical experience.

The first chapter deals with the rationale for Functional Jaw Orthopedics and for the inclusion of this type of treatment in a general dental practice. Three subsequent chapters discuss in detail the historical development, design and clinical manipulation of the Bionator, Orthopedic Corrector and Sagittal appliances and a further chapter is devoted to transverse appliances such as the Schwarz, Jackson, Nord, Crozat, rapid palatal expander, fan, Porter, quadhelix and Wilson. Second molar extractions

and function and dysfunction of the temporomandibular joint are combined in another chapter and finally a chapter is devoted to the philosophy and to a very limited and simplistic discussion of the clinical management of the "Straight Wire Appliance."

The strengths of this book include the high quality of the print and the many high quality color photographs, the detailed clinical manipulation of the Bionator, Orthopedic Corrector and Sagittal appliances and the realistic discussion of the Schwarz and Pont model analyses.

The weaknesses of this book include the incompleteness of the case reports and the lack of documented data. However, the authors contend that "the inability to support each and every minute aspect of functional appliance therapy with documented experimental, scientific data only acts as a deterrent to the overall comprehension of the entire program in the mind of the student-doctor wishing to master its techniques. The ultimate documentation is the successfully treated, happy, healthy patient. There are thousands!"

The portions of this book devoted to the clinical manipulation of the Bionator, Orthopedic Corrector and Sagittal appliances could be useful for the general practitioner with a good working knowledge of facial growth and development and for the orthodontist who wishes to increase his knowledge in the field of "Functional Jaw Orthopedics".

This book was reviewed by
Dr. R.C. Baker
U. of Manitoba

CONSULTANTS ANSWER YOUR QUESTIONS

Procom Inc.

Professional Communications Inc.
Madison, Wisconsin, $25.00 (US),
126 pages

In this book, Procom's board of 15 editorial consultants answer many of the commonly asked Practice Management questions. The topics include: maintaining patient satisfaction; increasing patient referrals; decreasing accounts receivable; staff remuneration and management; fee structuring; marketing techniques; computerization; practice value appraisal; management by objectives; treatment plan presentation; third party insurance; and partnerships and associateships.

Specific dialogue suggestions are offered for a variety of scenarios which could be incorporated into the dentist's personal office manual.

Some of the suggestions and techniques are not applicable to Canada because, as illustrated, they would be considered to be professional misconduct.

This book does contain many valuable suggestions, described quite specifically and in a utilitarian fashion.

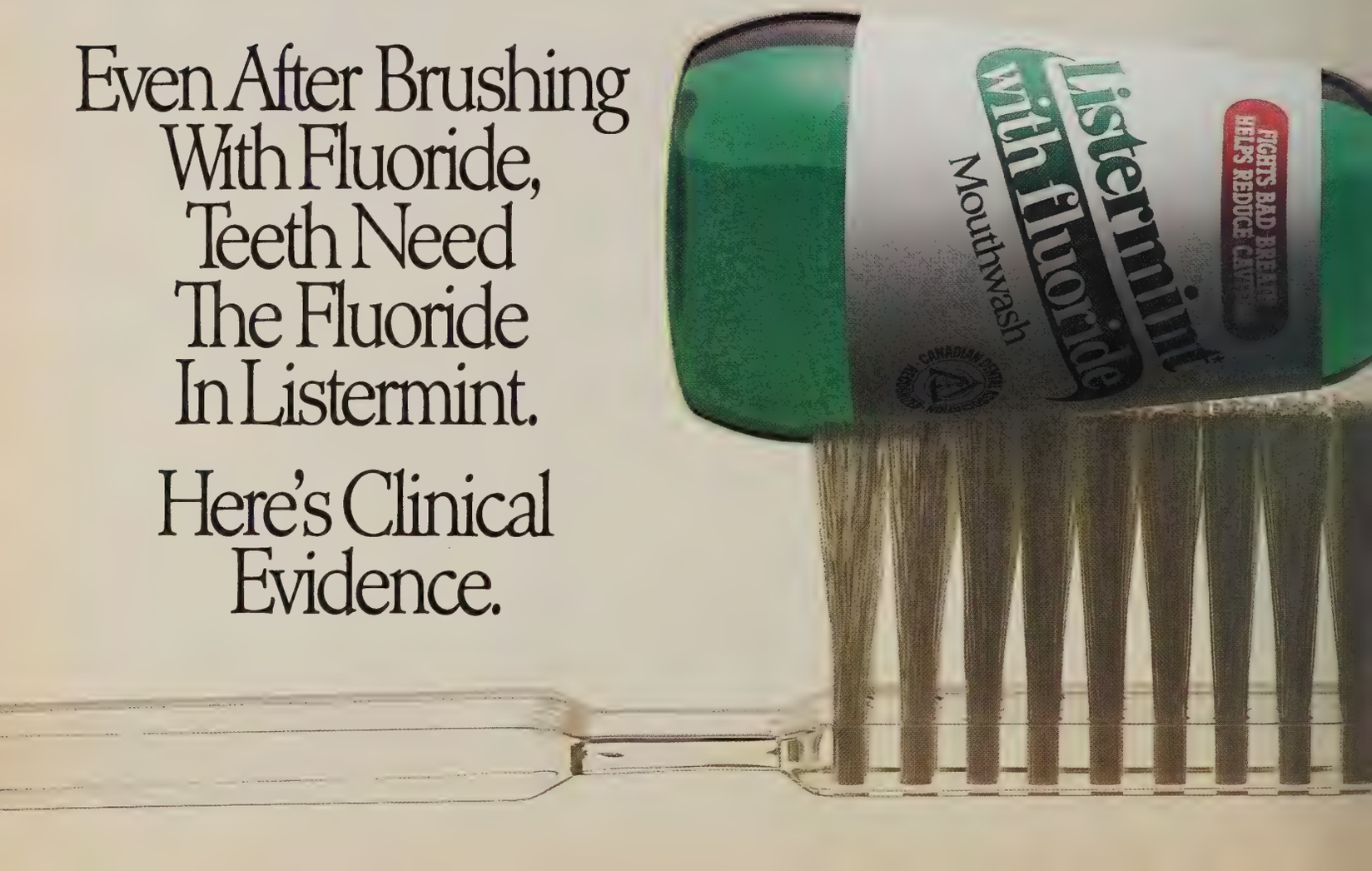
In a book of this length, covering such a wide variety of topics, it would be difficult to address all of the areas fully. The authors have, however, managed to deliver an impressive amount of useful information in a summary fashion. The book contains information that might very appropriately be used for staff training purposes and as topics for discussion in staff conferences.

In the opinion of this reviewer, this book would be a very worthwhile addition to the dentist's reference library.

This book was reviewed by
Dr. Robert A. Brandon
Assistant Professor
Division of Community Dentistry
University of Western Ontario

Even After Brushing With Fluoride, Teeth Need The Fluoride In Listermint.

Here's Clinical Evidence.

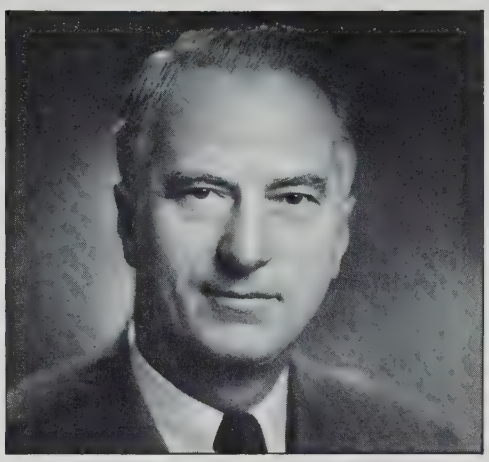


DR. R.P. LOWERY PASSES AWAY

Dr. R.P. Lowrey, a CDA President in 1950, died recently in Willowdale, Ontario.

Born in Tottenham, Ontario, he graduated from the University of Toronto Faculty of Dentistry in 1923. A World War One veteran, Dr. Lowrey was President of the Ontario Dental Association from 1947 to 1948.

Before becoming CDA President, Dr. Lowrey served the Canadian Dental Association on the Publications Committee and was a member of the Board of Governors.



LE Dr R.P. LOWREY EST DÉCÉDÉ

Le Dr R.P. Lowrey, président de l'Association dentaire canadienne en 1950, est récemment décédé à Willowdale, en Ontario.

Né à Tottenham, en Ontario, et diplômé de la Faculté de médecine dentaire de l'Université de Toronto en 1923, le Dr Lowrey a participé à la Première Guerre mondiale et a été président de l'Association dentaire de l'Ontario en 1947-1948.

À l'ADC, avant d'accéder à la présidence, il avait fait partie du Comité des publications et du Conseil d'administration.

FILLIER, R.P.: Born in 1949, Dr. Fillier was a graduate of the University of Toronto in 1975. He was a resident of Thornhill, Ontario, at the time of his death.

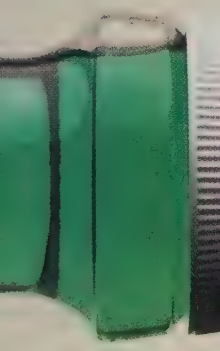
GARCEAU, G.: Né en 1939 et diplômé de l'Université de Montréal en 1967, le Dr Garceau habitait à Montréal (Québec) au moment de son décès.

HIBBARD, J.E.: A Life Member of the Canadian Dental Association, Dr. Hibbard was born in 1917. He was a graduate of McGill University in 1942, and was a resident of Kingston, Ontario, at the time of his death.

HOPPE, C.H.: Born in 1925, Dr. Hoppe was a resident of Windsor, Ontario, at the time of his death. He was a graduate of the University of Toronto in 1956.

JOHNSON, K.L.: A Brampton Ontario orthodontist, Dr. Johnson was born in 1942 and was a graduate of the University of Manitoba in 1965.

WAGLE, S.G.: A graduate of Bombay University in 1961, Dr. Wagle was born in 1934. He was a resident of Milton, Ontario.



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COSTA RICAN DENTIST

BUILDS BRIDGES NOT WALLS

AS AMBASSADOR

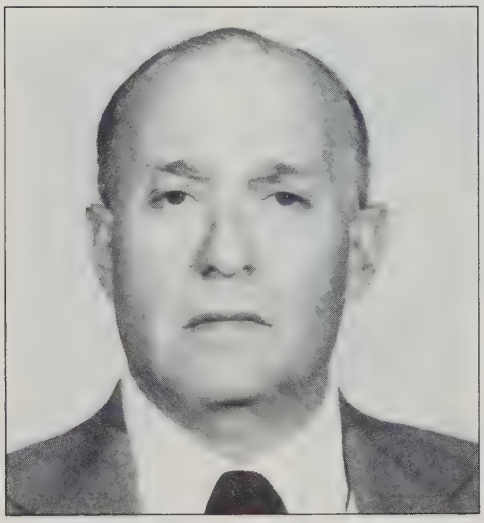
by Carolyn Hackland, BJ (Hons.)

There is at least one dentist in Canada who has never had to deal with malpractice issues, or a shortage of patients and who doesn't even know the meaning of the word "capitation" – he is Dr. Marco Aurelio Guillen, the Costa Rican Ambassador to Canada.

An oral surgeon, who received his undergraduate dental degree from the University of Costa Rica, Dr. Guillen graduated with specialty degrees from the Universities of Rome and London, England. A quiet, unassuming man, Dr. Guillen is obviously proud of his country and honoured to have been appointed by the President as ambassador.

"It is considered a great honor to be nominated, and one is named as Ambassador as a reward for political affiliation with the party in power. I will serve only four years, until the next election when a new President and new ambassadors will be chosen," Dr. Guillen told the Journal in an interview.

Speaking from behind a modest desk in a sparse but bright office in a downtown Ottawa apartment building, Dr. Guillen tells a fascinating story about dentistry and diplomacy in his native country – a dental world totally different from the Canadian scene.



Dr. Marco Aurelio Guillen

There is, for instance, only one dental school in Costa Rica, from which the Ambassador graduated in 1960. There are no tuition fees to pay, and all levels of education are free to Costa Rican people.

"Education is very important in Costa Rica and has always been one of our government's priorities. "In fact", said Dr. Guillen, "Most of the national budget goes to health, housing and education."

The dental school at the University of Costa Rica opened in 1940 and currently graduates 30 to 50 students a year. Dr. Guillen teaches oral surgery and anatomy at that school and says that standards of education are considered very high, as most of the dental faculty members have taken graduate degrees in the United States, Canada or Europe, before returning to Costa Rica to teach.

The dental education program is fairly similar to Canadian dental schools, but more lengthy – students must take a pre-dental year and then attend another five years of dental school before obtaining their degree.

"Students begin university at 17 or 18 years of age and take a year at the

University's Faculty of General Studies,'' Dr. Guillen told the Journal. ''In this way, students have a chance to find out their interests before embarking on a lengthy program of study.''

Following graduation, the new Costa Rican dentist is not likely to go into private practice, but will either teach or be employed, usually by the government's Ministry of Health. Very few dentists are in private practice as dentistry in Costa Rica is completely socialized. All of the major dental services are covered, including orthodontics, restorative work, endodontics and fixed prosthodontics.

''New graduates like to work under the socialized system'' said the Ambassador. ''In our country dentists are paid a salary for services mostly through the Ministry of Health and our people are well served by dental health programs.''

After graduation, new dentists are paid by the government to spend a year in remote locations providing dental care. Graduates either work in coastal areas which are difficult to access, in other remote communities or treat patients from the mobile dental units which travel about the country.

''The mobile units treat school children in remote places and see local patients for free. Some of the mobile dentistry is done in very primitive communities under less than ideal conditions. Some of the coastal ships also have mobile units and visit the difficult to reach coastal outports,'' Dr. Guillen said.

With apparently little private practice and virtually free dental care available to all Costa Ricans, the Ambassador was asked about some of the issues which would be facing Costa Rican dentistry today.

''Salaries are an issue, as the cost of living in Costa Rica has skyrocketed in relation to salaries in the past few years. Both physicians and dentists have had to strike for better salaries, although the last strike was six years ago,'' Dr. Guillen told the Journal.

''An oversupply of dentists is becoming apparent, but this is not considered as much of an issue as it is here in Canada,'' said Dr. Guillen. ''Issues such as your capitation are not even thought of in Costa Rica.''

One matter that does concern Costa Rican practitioners is taxes on dental materials. All dental materials are currently imported, mostly from the U.S. and the Costa Rican Government taxes these materials heavily. Currently both the Costa Rican College of Dental Surgeons and the Association of Costa Rican Dentists are lobbying to have the taxes removed or reduced.

The two dental organizations mentioned above serve two distinct functions in Costa Rica.

''The College is in charge of specialty recognition and is closely affiliated with the University,'' said Dr. Guillen.

Licensing for Costa Rican dentists is automatic once one graduates from dental school, but foreign dentists who wish to practice in the country must be approved by the College. The College also provides dentists with one national meeting a year, a retirement plan, insurance and continuing education courses.

''All the professions are administered under a College in Costa Rica,'' the Ambassador said. ''Nurses, journalists, pharmacists, even veterinarians all have separate Colleges. You must be affiliated with a College in order to work in Costa Rica but the monthly fee to belong is very low – only $25 Canadian per month,'' he said.

The Association of Costa Rican Dentists, on the other hand, is purely voluntary. Dr. Guillen described it as being ''like a trade union, in charge of work problems.''

The Association provides liaison between the salaried employed dentists and their government employer.

As Costa Rica's Ambassador to Canada, Dr. Guillen sees his own role as one of liaison. When his term as Ambassador is up, however, he will return to Costa Rica and teaching.

''Although it is a great honour to be appointed as Ambassador by the President, in Costa Rica there is no such thing as a 'career diplomat.' The embassy staff will stay on, but a new Ambassador will be appointed at the time of elections in four years, when a new President is elected,'' said Dr. Guillen.

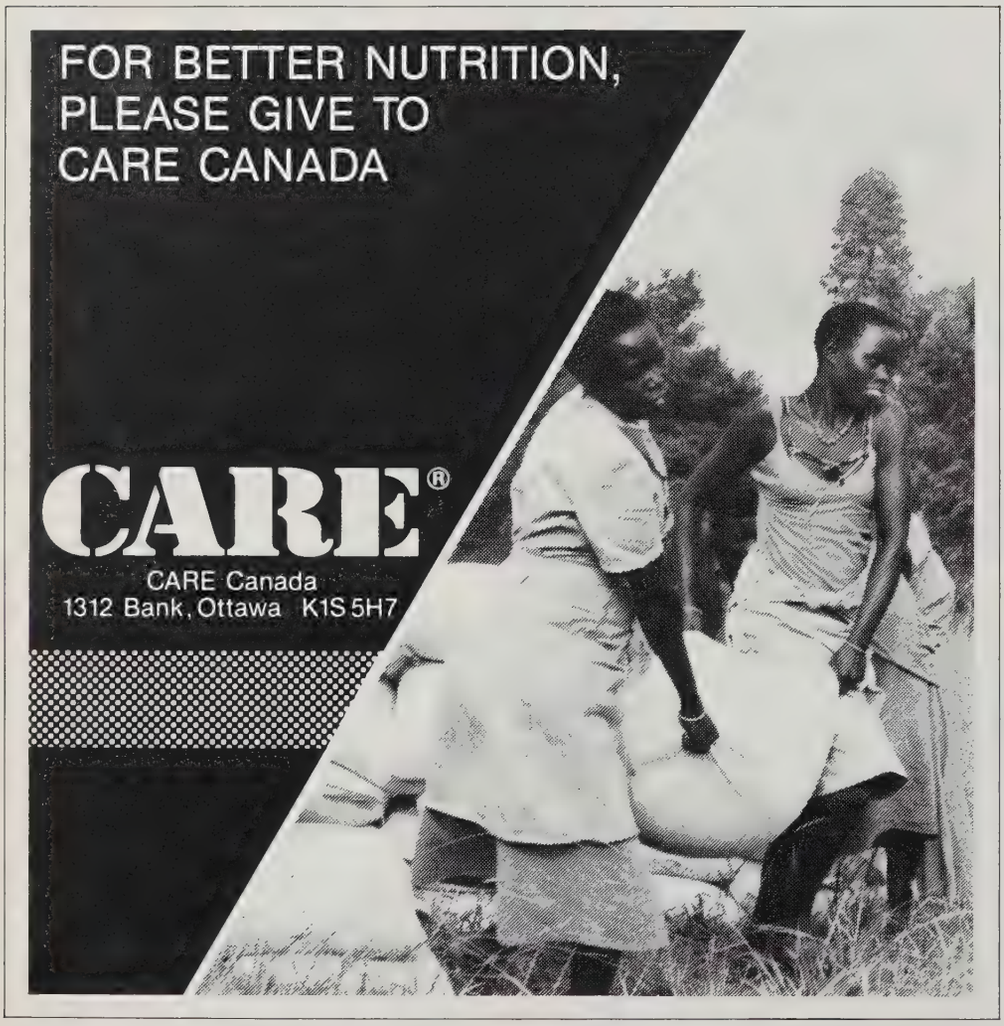
One of the current Ambassador's priorities is to increase the knowledge that Canadians have about Costa Rica.

He says with pride that ''Costa Rica is the oldest democracy in Latin America, and although we border on Nicaragua, we do not have the same problems.

''We are a small country, only 2.5 million, and we do not even have an army. We believe that it is better to have a bad agreement than a good fight and one of the savings in Costa Rica is that we like to build breaches instead of walls.

''As Ambassador I hope to build some of those breaches, promote the beauty of our country to Canadians, encourage educational exchange and I look forward to a greater trade liaison between Canada and Costa Rica,'' he concluded.

Leaving his office, one gets the feeling that this soft-spoken oral surgeon could achieve some of these goals by the end of his four year stay in Canada.



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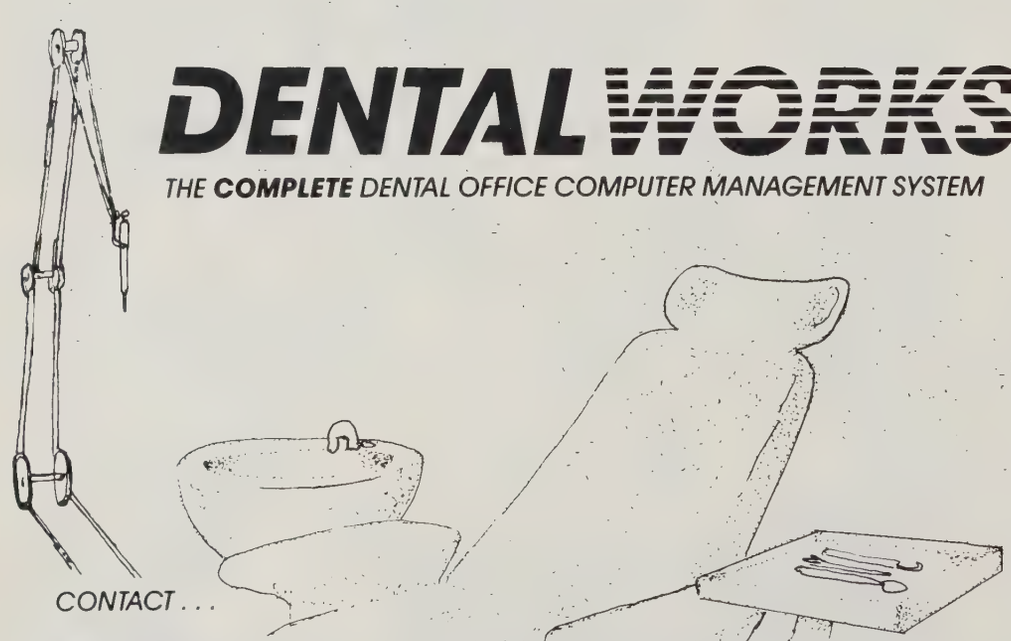

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FLUORIDATION

TIME FOR A NEW BASE LINE?

A.S. Gray, DDS, FRCD(C)

ABSTRACT

A review of current findings in British Columbia and also in other localities indicates that DMF rates in children are falling drastically in non-fluoridated areas as well as fluoridated areas. The current statements of our profession in support of fluoridation do not appear to take these changes into account. It is timely for the profession to take the lead in deciding what is scientifically appropriate to tell communities that may consider installing fluoridation equipment and holding fluoridation referendums in the late 1980's.

It is becoming difficult to provide accurate, ethical advice to communities in British Columbia who wish to consider fluoridation of their public water supplies in 1987. This conclusion may seem strange from one who has promoted fluoridation referendums, and publicly debated the issue with one of the leading anti-fluoridationists, Dr. Exner, in the past.

Through the 1950s and 1960s, we were struggling with a shortage of dentists, an increasing number of children, and a corresponding increase in their caries rates[1]. Many children in those years had permanent teeth extracted only two or three years after eruption. These teeth were supposed to last a lifetime. Fluoridation of water supplies was promoted as the most effective caries prevention measure[2]. The proof was overwhelming. The quality of the research was excellent. Dentists and public health officials developed the habit of saying, writing and reporting that fluoridation was the single most cost-effective method of reducing caries in children. The original studies showed that a reduction of 50-70 per cent in the DMFT rate resulted from fluoridating a community water supply to a level of 1.0 ppm fluoride[3]. Countless studies done later, some in British Columbia, confirmed the results of the original studies[4,5,6].

So what is the concern? The concern is that we seem to be still using the same expressions of effectiveness, and promising new communities the same kind of prevention from adopting fluoridation, when everything else has changed. Perhaps we have been too much the crusaders, without keeping ourselves up to date.

The original reductions in DMFT rates of 50-70 per cent attributed to water fluoridation, are based on studies more than 30 years old. At that time, the main source of fluorides in the food chain may have been in water supplies, either natural or mechanically controlled. Since the realization that fluorides had a great part to play in the prevention of caries, many other sources of fluoride have appeared, particularly fluoride toothpastes, supplemental fluoride tablets and drops, and topical fluoride solutions and rinses[7].

Some other important things have happened as well. Most parents and children have an increased awareness of the importance of dental health as a result of public health programs. Oral hygiene has improved. Regular dental care is sought for most children in British Columbia[7]. Chances for cross infection by carious lesions to other teeth have been reduced, as constant care means smaller cavities existing in the mouth for a shorter period before restoration. Dentists and their staff members practise prevention with their patients. The DMFT rates have declined dramatically[9,10,11]. This reduction has occurred in both fluoridated and non-fluoridated communities.

The type of caries now seen in British Columbia's children of 13 years of age, is mostly the pit and fissure type. Knudsen in 1940, suggested that 70 per cent of the caries in children was in pits and fissures[12]. Recent reports indicate that today, 83 per cent of all caries in North American children is of this type[13]. Pit and fissure cavities aren't considered to be preventable by fluorides, they are prevented by sealants[14]. In British Columbia, and likewise in Alberta, smooth surface cavities, particularly posterior interproximal lesions, are noticeable by their absence in school age children[15].

Another observation is important. A 60 per cent reduction in the DMFT rate of children when the average DMFT is 8-10 teeth, is very significant. A 60 per cent reduction in the DMFT rate of children when the average DMFT is less than 4 teeth, is of less significance. If the reduction that is occurring through fluoridation is not 60 per cent but closer to 25 per cent, then it is something else again. Let us not pretend that fluoridation has no cost. There are significant costs to purchasing, operating,

maintaining and replacing equipment and supplies. Perhaps the greatest cost to a community is the emotional upheaval that a fluoridation referendum causes in the minds of some of its residents. These points need to be considered when community fluoridation is proposed, and balanced against the benefits to be derived.

There has not been a successful fluoridation referendum in British Columbia in more than a decade. Two communities did have revotes. One community voted to keep fluoridation, the other to discontinue it. At the same time, survey results in British Columbia with only 11 per cent of the population using fluoridated water, show lower average DMFT rates than provinces with 40-70 per cent of the population drinking fluoridated water[16]. How does one explain this?

Another change that has occurred is how we picture the physiology of fluoride prevention today. Once it was thought that the caries preventing action of fluoride came about from absorption of the ingested fluoride into the bloodstream. The resulting crystalline structure of developing enamel was considered to be comprised of fluoroapatite, rather than hydroxyapatite. Fluoroapatite is known to be more resistant to dissolution in mouth acids than hydroxyapatite. Thus, building teeth more resistant to decay, was seen as the real advantage provided through fluoridation. It was also thought that topical applications of fluoride solutions formed a similar resistant structure in the outer layers of enamel[17].

Today, the physiology of fluoride prevention, while including the above, is apt to be described as follows. The tooth surface is seen as a labile interface of liquid and crystalline states across which a number of factors influence a constant exchange of ions. Fluorides are one of the factors. The crystal surfaces of enamel are constantly being eroded and reformed. When the pH at the plaque enamel interface is near neutral, then the ionic exchange is slow, near equilibrium results, and the crystals become more mineralized, creating more mature enamel. If the interface is infused with hydrogen ions, the pH falls, and calcium and phosphate ions pass from the enamel into the plaque. If the pH returns to neutrality soon, then these ions may be redeposited into the enamel. A constant system of demineralization and remineralization exists. Unchecked demineralization causes cavities. Remineralization prevents cavity formation. Fluoride ions present in plaque, limit the drop in pH levels by preventing glycolysis and encouraging reprecipitation of minerals[18].

Perhaps then, the presence of fluoride ions topically in saliva is at least of equal importance as fluoride blood levels. There is much evidence in existence from both in vitro and in vivo studies to support the claim that small carious lesions can "heal" as a result of this remineralization, which is promoted by a constant but very low level source of fluoride. Just such a level may be provided by fluoride toothpastes[19,20]. Most of the toothpaste sold in Canada today contains fluoride. The concentration of fluoride in these dentifrices is approximately 1,000 ppm. One gram of toothpaste, a possible brushing amount, likely contains 1 mg of fluoride[21]. A child brushing one, two or three times per day is going to swallow some of the fluoride, besides creating a topical effect. The claims of effectiveness made by toothpaste manufacturers, are very significant, with modern dentifrices much more effective than the original fluoride toothpastes[22,23]. Somehow, this toothpaste technology is discounted whenever fluoridation is discussed. Perhaps fluoride toothpastes should be looked at as the great equalizers in bringing down DMFT rates in non-fluoridated communities.

This paper is not intended to bring aid and comfort to those who oppose fluoridation. Fluoridation has proven itself in the past to have been of considerable benefit to those who grew up under its influence. But now, in British Columbia at least, something is happening to reduce the DMFT rates in non-fluoridated communities as well. In fact, school districts recently reporting the highest caries free rates in the province, were totally unfluoridated[11].

To a knowledgeable observer, it would appear that at the present time in this province, the advantages of fluoridation are probably not in the 60 per cent range but more likely in the 25 per cent range. In British Columbia, like Alberta, the current average caries rate of 13 year old children, is under 4 DMFT[11,15]. With a 25 per cent benefit, a person drinking fluoridated water for the first 13 years of life, would have one less tooth to restore than if he had been drinking non-fluoridated water. This is still an advantage but not of the same importance as we still promote. It is of even less importance if the one tooth could have been treated by a sealant technique.

Many dentists and public health officials may not welcome public discussion of these points. Many may find it hard to realize that we may not need fluoridation as much as we once did. Historical controversy and emotionally entrenched positions will contribute to these feelings. A scientific profession must, however, be ready to adapt to change. The changes in dental health are happening so quickly that we may be slow to adjust. When the prevalence of small pox declined, medical and public health reaction was to change policy in regard to small pox immunizations. As yet, the rate of decline in children's DMFT rates shows no tendency to bottom out. If caries rates in children drop much further in British Columbia, when only 11 per cent of the people are using fluoridated water, then our position on fluoridation will have to reflect that situation.

There are some final points to bear in mind. People are using fluoride toothpastes whether they are on fluoridated water or not. Some concerns about an increase in fluoride hypoplasias are being expressed. Are these valid concerns? On the other hand, if the advantages to children are not quite as cost-effective as we once thought, could it be that there is some real accumulated benefit to adults? Over time, can we now show that adults have more caries resistant teeth in fluoridated communities because of more mature mineralized enamel? We need to know more. Other dentists have previously alerted the profession to changes in caries and fluoridation benefits[24,25]. We should not allow outsiders to take the lead in acknowledging developments in a scientific process so close to our own profession[26].

The dental profession in Canada should move quickly to develop a new baseline from which to advise communities about the benefits of fluoridation on a scientific basis in step with the changing times.

Dr. Gray is Director, Division of Dental Health Services for the British Columbia Ministry of Health.

Reprint requests to: **Dr. A.S. Gray**, Div. of Dental Health Services, Ministry of Health, 5th Floor, 1515 Blanshard St., Victoria, B.C. V8W 3C8.

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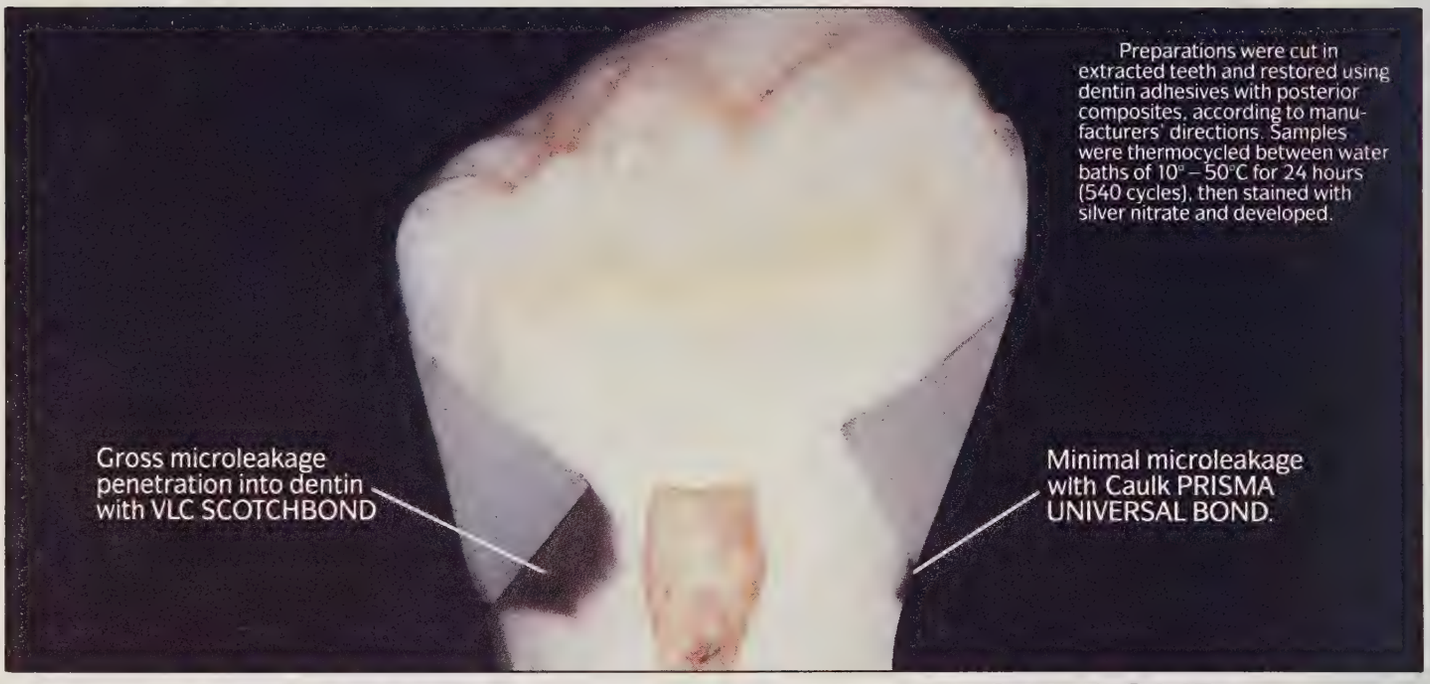

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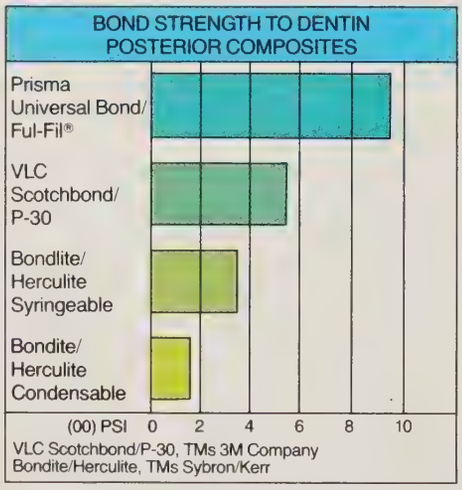

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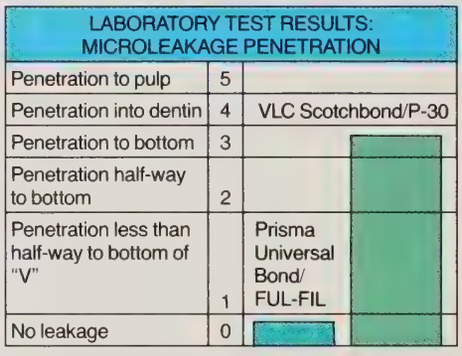

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INFECTIOUS DISEASES

IN OUTPATIENT PRACTICE

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R.G. Mathias, MD, FRCP(C)
Vancouver, B.C.

ABSTRACT

Infection and infectious disease in delivery of health care are of concern to all health care workers. Health care workers have paid little attention to infectious disease until recently. This article reviews infections and infectious disease of concern to health care workers and the public.

SOMMAIRE

Pour tous les professionnels de la santé, la contamination et les maladies infectieuses sont des sujets qui les préoccupent lorsqu'ils administrent des soins. Jusqu'à récemment, ils portaient peu d'attention aux maladies infectieuses. Cet article passe en revue les dangers de contamination et les maladies infectieuses qui constituent un sujet d'inquiétude tant pour les professionnels de la santé que pour le public.

The evolution of infection and the development of disease is a multifactorial process. Interactions among the infectious agent, the environment and the host determine the outcome of exposure. Exposure to an infectious agent may result in typical symptomatic clinical disease, few non-diagnostic symptoms, subclinical disease, or no disease at all. The virulence of the infectious agent, the dose and route of exposure determine the challenge to the host. Host resistance to infection including age, underlying illness, and specific immunity to the pathogen, are among the factors that determine the outcome of exposure. Infectious disease must be viewed from the perspective of risk to the health care provider as well as to the patient. The risk of infection is present in practice on a daily basis due to the fact that infection may be transmitted when the individual is incubating the agent prior to developing symptoms. Infections may be asymptomatic, and some diseases may be present in long-term carrier state. In fact, asymptomatic carriers of the agents, or those incubating the agent, in whom symptoms and signs are not recognized or do not develop, are perhaps more infectious than patients who have developed clinical disease.[1]

A history of the infectious diseases of concern should be completed for each patient. However, the health history may not be reliable due to subclinical infection, lack of a diagnosis, and the carrier state.[2-4] Therefore, it is necessary that methods of infection control be effective and practical so that they can be used in all clinical procedures. This article will review the infectious agents, the modes of transmission and the clinical diseases that place health care workers and patients at risk.

A) AGENTS THAT ARE PRESENT AND NEED TREATMENT BUT HAVE LITTLE POTENTIAL FOR SPREAD

Neisseria gonorrhea: This bacterium causes an infection that may on occasion cause a pharyngitis, which clinically, will not be distinguishable from other viral or bacterial pharyngitis. Most often, pharyngeal infection is subclinical. Diagnosis is by bacterial culture but *N. gonorrhea* must be specifically requested or the laboratory may not use the appropriate culture methods. Treatment with an oral antibiotic regimen, e.g. Amoxicillin 30 gm with probenecid 1.0 gm once plus tetracycline 500 mg qid for seven days, should be discussed with the patient's physician. There is virtually no possibility of transmission to staff when the use of gloves is routine.

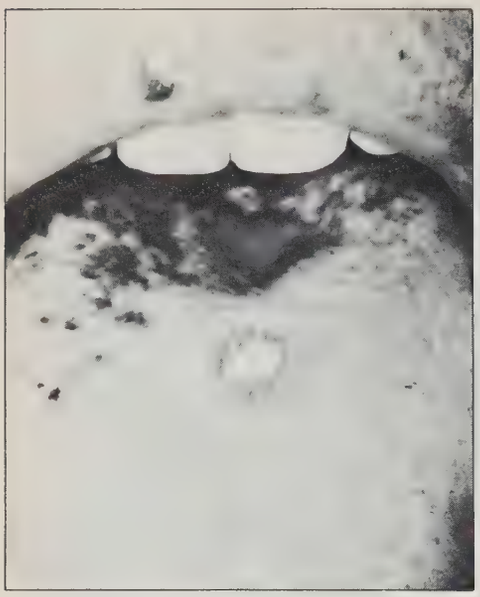

Fig. 1 *Tuberculous ulceration with irregular borders and a white base; the lesion is potentially infective and must be differentiated from a traumatic ulcer.*

B) AGENTS THAT NEED TREATMENT AND ARE POTENTIALLY INFECTIVE TO THE HEALTH CARE PROVIDER

Treponema pallidum: This organism causes syphilis, and its transmission to dental care providers is well documented. Fortunately syphilis is relatively rare, and it's incidence does not appear to be increasing. Its primary manifestations may appear as a nonspecific, painless ulcer with firm borders, or chancre, at the site of inoculation. Chancres may be present on the lips or intraorally. Manifestations of secondary syphilis may be present as a mild mucositis (mucous patches), and a generalized skin rash. Even without a lesion in the mouth the spirochetes may be present. Oral manifestations of tertiary syphilis include palatal perforation, a raised firm nodule (gumma), glossitis, as well as the general manifestations of central nervous system involvement. Congenital syphilis is reported to present with secondary (infectious) and tertiary (not infectious) manifestations, as well as alterations of the dentition, Hutchinson's incisors and alterations of the molar teeth. Primary, secondary and early latent syphilis are the infectious stages; late infections are not associated with transmission to health care workers.

Both the infected individual and all sexual contacts require treatment. Percutaneous exposure may result in transmission, requiring prophylaxis in the exposed individual, such as the dentist who has an open cut on a finger or who stabs a finger with a probe. The best protection is a barrier, such as gloves.

Mycobacterium tuberculosis (**Fig. 1**): Although TB is under improving control, there is a possibility of coming into contact with an infectious case. Symptoms include chronic, often productive cough, weight loss and fatigue. In oral tuberculosis, ulcers may be present; their main differential diagnosis is trauma. TB is spread by coughs that get the bacteria into the air. Once airborne, breathing the bacteria containing droplet nuclei, < 5 microns in diameter, may result in infection. However, as TB is not very infectious due to the diluting effect of air, relatively short contacts are unlikely to result in infection unless the exposure is close and the numbers of aerosolized bacteria large.

Health care workers should know the result of their Mantoux test. This test for TB infection is available from physicians or public health units. If you are infected, as determined by a skin test that goes from negative to positive, prophylaxis is available from the health unit or TB control unit in your area. TB organisms are not likely to be airborne from dental procedures as they usually arise from a cough. Thus, the low risk can be minimized with the use of a mask on the dental team member and a rubber dam in the patient if the history indicates a cough.

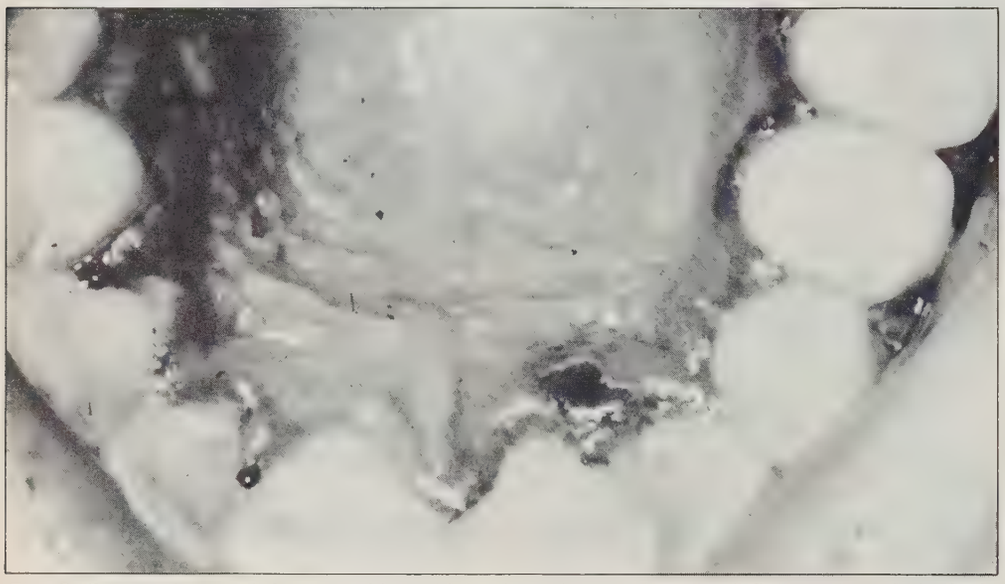

Fig. 2 *Primary herpes infection with multiple ulcerations and severe inflammation of gingival tissues.*

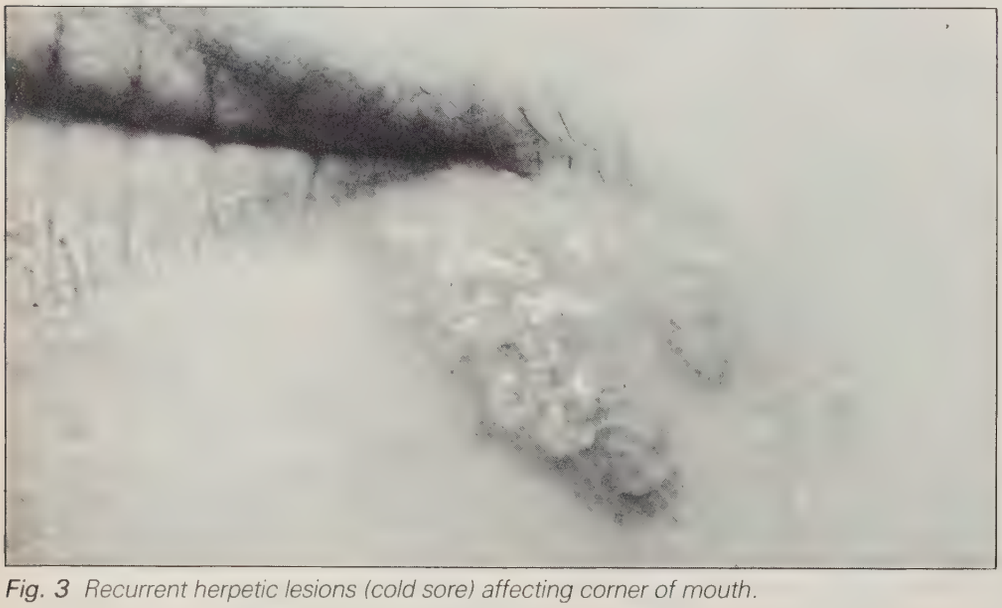

Fig. 3 *Recurrent herpetic lesions (cold sore) affecting corner of mouth.*

C) AGENTS THAT CAN BE SPREAD BUT WHERE IMMUNIZATION IS AVAILABLE[5]

Corynebacterium diphtheriae: Cases of clinical diphtheria are now rare due to the high efficacy of immunization, but the organism may still be carried in the pharynx. However, the carriage of organisms is not rare in the setting of poor socioeconomic conditions, especially associated with crowding. The clinical findings of the disease are a grey-yellow membrane covering the tonsil, and an acutely ill, febrile

patient. Spread is by direct contact, usually via droplets. To ensure protection, all health care providers must be immunized according to the national schedules. Although boosters are recommended every 10 years, once adequately immunized, they are probably needed only after an exposure.

Tetanus: Immunization for tetanus is normally done at the same time as for diphtheria. Tetanus is not a risk for the dental team, in particular, but immunization should be kept up-to-date, as it should for any individual.

Influenza: Tired of that influenza attack every winter? Fever, chills and muscle aches and pains accompanied by cough that result in a week or more in bed are not pleasant accompaniments to the usual work week. Influenza A or B is usually epidemic in the Northern Hemisphere during the winter, but immunization against the droplet spread virus will protect the recipient most of the time, and influenza immunization for health care workers is now recommended.[6] The vaccine is available in the fall, and due to drifts and shifts in the viral agents, immunization is necessary on a yearly basis. The recent observation that a new strain has appeared in the Southern Hemisphere (A/Taiwan) has emphasized the variable nature of influenza A virus and the need to immunize according to the prevalent strains.

Potential transmission of the agent is greatest during the incubation phase of infection and during the prodrome of the illness, when the health care worker and patient may be in contact. We recommend influenza vaccine for all staff in contact with the public, for their protection and that of their patients.

Measles (Rubeola): Measles is an acute systemic infection characterized by a maculopapular rash affecting the face, neck, hands and feet. Cough, conjunctivitis, fever, malaise, and oral whitish-blue spots on the buccal mucosa (Koplick's spots) occur three or four days before the rash appears. Although measles is a highly infectious direct contact droplet spread infection of children, with increasing vaccine use some older individuals who were not immunized are escaping childhood infection but are still susceptible to this virus. Immunization with live further attenuated measles vaccine is strongly recommended for all individuals born after 1968 who were not immunized. This protects both the staff and patients.

Rubella (German measles): Rubella is a mild systemic infection characterized by an exanthem, a maculopapular rash on the face and neck, lymphadenopathy – especially post-auricular nodes, and fever. Petechial lesions of the soft palate may be present. Although the manifestations are often mild, the major concern is the fetal damage that can occur with transplacental infection. Infection after puberty can also result in arthritis, occasionally recurrent, especially in females. It is therefore necessary that all staff members are immunized with rubella vaccine or have a blood test to show that they are immune. This is for the personal protection of both sexes and also for the protection of women who may be pregnant, so that an inadvertent contact will not spread rubella to them and result in the congenital rubella syndrome.

Mumps (epidemic parotitis): Mumps is a viral infection caused by a paramyxovirus. It is preceded by fever and classically manifests as swelling and tenderness of the parotid gland, with inflammation of the duct orifice. It occurs most commonly in children between the ages of 5 and 15 years and can

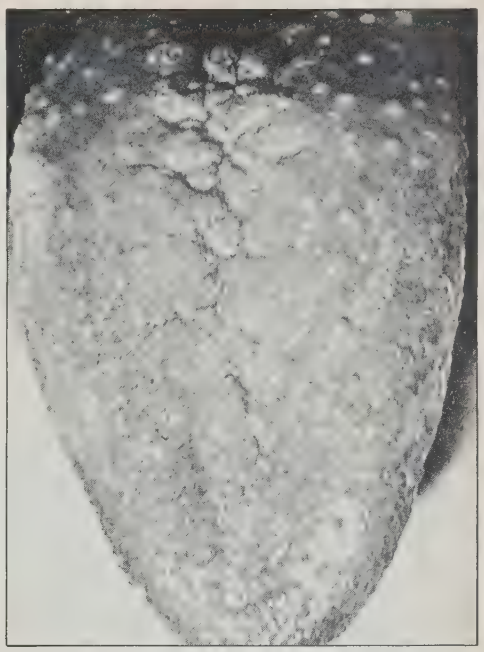

Fig. 4 Strawberry tongue of Group A streptococcal infection.

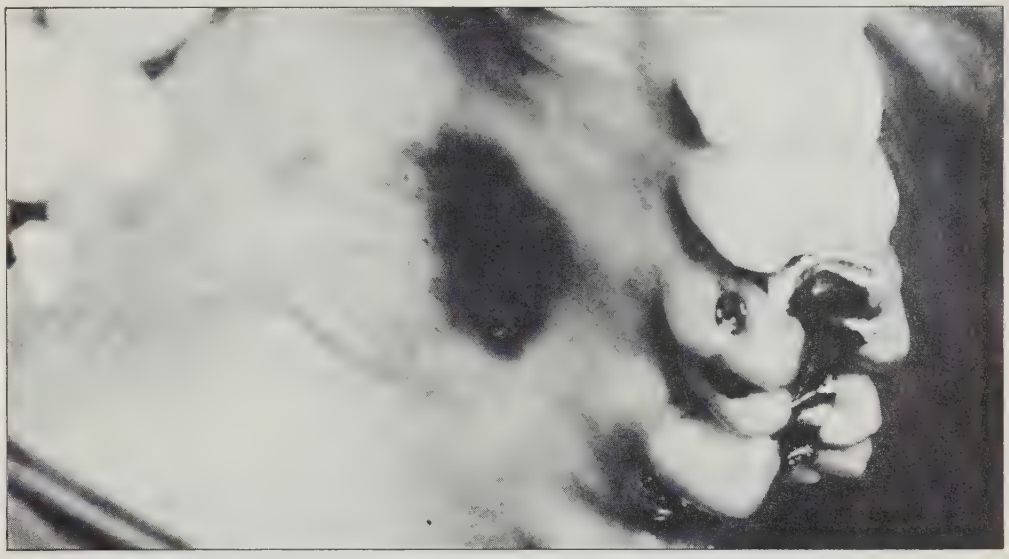

Fig. 5 Kaposi's sarcoma affecting the palate of a patient with AIDS. The lesion begins as a blue-red flat discolouration that may progress to an exophytic, soft discoloured lesion.

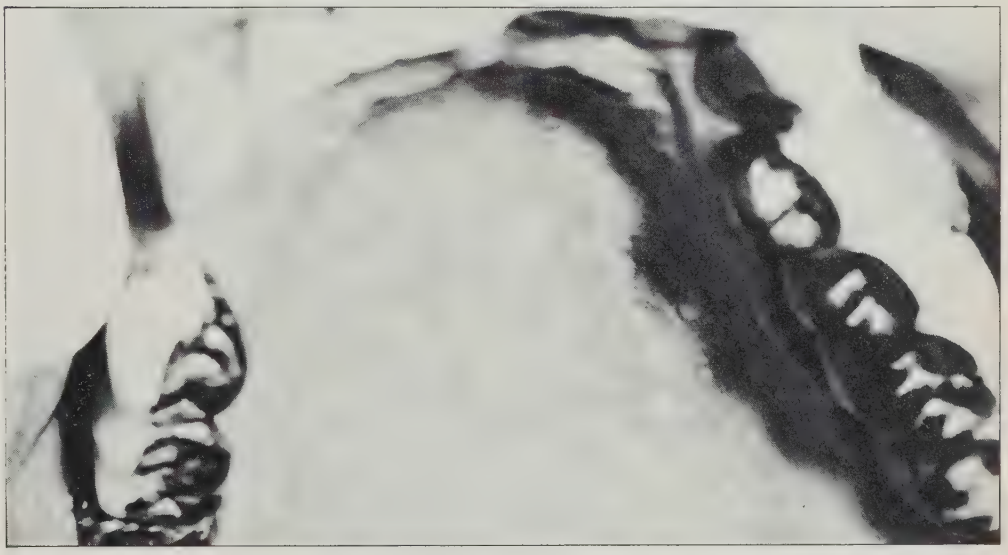

Fig. 6 Pseudomembranous candidiasis (thrush) of the palate that extended to the oropharynx in a patient with HIV infection. The moderately adherent white plaques are associated with erythema and a mild burning sensitivity in the mouth.

involve other organs, including the pancreas, testes, and central nervous system, particularly in older individuals. The paramyxovirus is droplet spread. A live attenuated virus vaccine is available and should be used by all staff members. In individuals born before 1968 or who have a history of mumps, vaccination is not necessary.

MMR vaccine: This vaccine protects against measles, mumps and rubella. If in doubt about your immunization status, it is the recommended product for immunization against any of these common childhood diseases. Check with your physician or health unit about indications and availability.

Hepatitis B virus (HBV): This virus is spread by direct contact, either sexual or percutaneous. Dental teams have been infected and have been a source of this virus, and studies have shown that its incidence in general dentists is approximately three times greater than in the general population.[2-4,6] Those with surgical practices may have an incidence up to six times the general population; dentists have been examples of transmission of this infection to patients in more documented cases than any other health care workers.[7,8] Most infected individuals will have either subclinical disease or acute hepatitis.[2] In a small percentage, hepatitis B runs a fulminant course and results in death. Other individuals may become carriers, either short (under six months) or long term. Carriers can remain healthy or can develop cirrhosis or cancer related to the virus. The history of infection may be unreliable as most infected individuals are not aware of their carrier status and most persons with a history of hepatitis either had hepatitis A or have resolved their infection.[2-4,6]

Until recently, the only protection against this virus was the use of gloves. There is now a vaccine which will prevent infection in most individuals, and all those at risk should receive vaccination against hepatitis B with the currently available vaccine(s). This purified vaccine will produce protective antibodies in most recipients when given as directed by the package insert.

Hepatitis D virus (Delta hepatitis): This is an infection caused by a passenger virus that needs the coat of the hepatitis B virus (HBsAg) to be complete. When it infects a person, either concomitantly with hepatitis B or one who is already a carrier of hepatitis B, it can produce a severe hepatitis. Fulminant hepatitis appears to be more common with dual infections. Fortunately, immunization with hepatitis B vaccine will also protect against hepatitis D.[9]

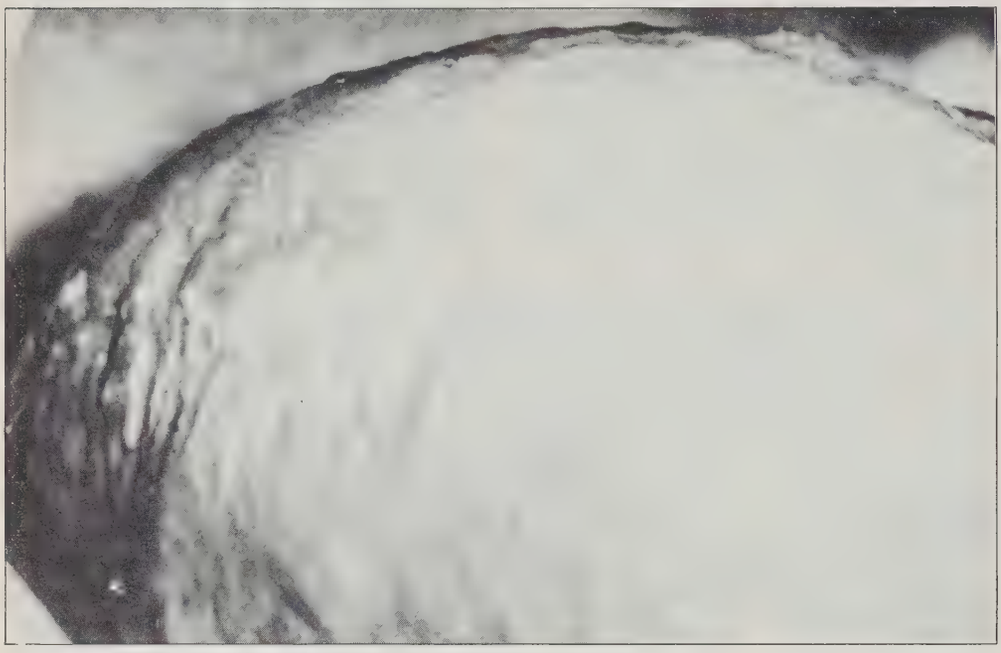

Fig. 7 White, corrugated plaques on the lateral borders of the tongue, seen in patients with HIV infection, are known as hairy leukoplakia.

Figs. 8 and 9 Herpes zoster infection (shingles) with viral ulcerations seen along the nerve distribution, (V_3), with involvement of the lip (skin and mucosa) and tongue.

D) AGENTS THAT ARE COMMON AND MAY RESULT IN INFECTION BUT AGAINST WHICH SPECIFIC PROTECTION IS NOT AVAILABLE

Herpes simplex virus (HSV): (**Figs. 2** and 3). Oral herpetic infections occur as primary infections and reactivation of latent virus. Primary infection may manifest as an acute illness with fever, malaise, cervical lymphadenopathy, and vesicular, ulcerative gingivostomatitis of 10 to 14 days duration. Recurrent herpetic infections typically begin with a prodrome of tingling and discomfort in the site of the developing lesion. The lesion begins with clusters of 1-mm vesicles that rupture to form ulcerations, followed by coalescence into a larger ulcer. On the lip, crusting develops but intraorally, the lesions do not crust due to the moist environment. Stress, other viral infections, trauma, exposure to sun, and underlying systemic conditions have been associated with the development of recurrent lesions.

Herpes infections are common in the oropharynx. The infection rates for oral herpes approach 100 per cent at an early age, probably due to direct contact with the virus. Although the lesions of primary infection tend to be generalized and the recurrent lesions tend to be more circumscribed, herpes simplex viruses are frequently shed without any lesions being present. Asymptomatic shedding may result in infections in exposed individuals.

Infection with type I HSV is not substantially different from infection with type II virus, both are persistent at the site of infection. Although most type I are oral and type II genital, they may infect at either site.

Individuals remain susceptible to herpes infections at sites distant to the primary infection. Dental personnel have been shown to be at increased risk of contracting herpetic infections in their fingers or hands, and are at an increased risk of keratoconjunctivitis compared to matched controls.[10,11] Inoculation herpes and herpetic whitlow may follow percutaneous exposure to the virus into a finger via a contaminated instrument. Clinical signs and symptoms include abrupt onset of edema, erythema and tenderness followed by a vesicular eruption. Early diagnosis is needed to prevent exposure of patients, and transmission from dental personnel to patients has been documented.[12]

Herpes infection of the eye presents with pain, change in vision, conjunctivitis, and often systemic symptoms. Prompt treatment is required to prevent damage to the eye; recurrences are common.[11] The only prevention available is a barrier to prevent transmission to the health care worker and to other patients, as it is not possible to detect asymptomatic shedders of herpes virus. This barrier may be in the form of glasses to prevent eye contact, or gloves for the hands.

TABLE I

Infection Control

PATIENT EVALUATION
history
symptoms and signs of illness
at risk group
consultation
PERSONAL PROTECTION
current immunizations
handwashing
gloves
mask, protective eyewear, clothing
OFFICE SANITATION
cover work surfaces
chemical disinfection
INSTRUMENT STERILIZATION
cleaning, debridement
heat or gas sterilization
chemical agents

Upper respiratory tract infections (**Fig. 4**): The common cold is a brief, self-limiting illness usually caused by a group of viral agents, including coronavirus, rhinovirus and others. There are over 100 different viruses involved in this process. Dental students have shown a higher incidence of respiratory illness than medical and pharmacy students.[13] A correlation has been shown between the incidence of the common cold in naval recruits and dental personnel who treated them.[14] At this time, transmission from the nasopharynx appears to be primarily via a surface, onto a finger, followed by autoinoculation into the eye or nose.[15] Good technique, including not touching one's face without first washing hands, is the only prevention, and the number of colds one gets in a year is evidence of its effectiveness. Wearing a mask may help to protect your patients and prevent you from inoculating virus.

Several of these viruses cause a pharyngitis that is indistinguishable from streptococcal infection without a culture. When a pharyngitis is recognized, a barrier is indicated for both staff and patient. However, streptococcal carriage rates can be 20 per cent in winter and higher in some crowded conditions. Fortunately, most adults are not susceptible to streptococcal infection or the sequela of rheumatic fever. Streptococcal infections should be eradicated by the use of antibiotics, usually penicillin, but antibiotics are of no value against viral infections. A throat culture will allow the differentiation of viral vs. bacterial pharyngitis.

Herpangina is a common viral disease of the mouth and oropharynx, caused by a Coxsackie virus. It presents with fever and malaise, followed by inflammation of the oropharyngeal region, with the development of vesicular lesions, and resolves in 7 to 10 days.

Hand-foot-and-mouth disease caused by another Coxsackie virus involves any area of the mouth. With the low risk in a dental environment, a mask should protect the staff and patient.

Lower respiratory and enteric viruses: These are a diverse group of viruses that can be spread via the droplet or fecal-oral routes, and include influenza, para-influenza, respiratory syncytial virus, Coxsackie and ECHO viruses and the adenoviruses. They pose little risk of transmission unless aerosolized with a cough. They are not present in the mouth, bur rather in the pharynx or gut. Hepatitis A is included in this group.

E) AGENTS THAT ARE RELATIVELY UNCOMMON BUT WHERE TRANSMISSION MAY RESULT IN SERIOUS ILLNESS

Non-A non-B hepatitis: There is one and possibly more viruses that fit in this classification. They are spread by direct contact in a manner similar to hepatitis B. Non-A non-B hepatitis develops most frequently following blood transfusion and is generally not as severe as that due to hepatitis B. A carrier state is common. Percutaneous exposure to carriers is a high risk but oral exposure a low risk. It is not possible to identify carriers, and therefore, transmission is interrupted by attention to hepatitis B precautions, including barriers such as gloves and the avoidance of percutaneous injury.

Human immunodeficiency virus (HIV) (**Figs. 5, 6 and 7**): Acquired immunodeficiency syndrome (AIDS), one result of infection with HIV, may be a relatively unusual result of infection with this virus. Infection results in carriers of the virus and is transmitted by direct routes, such as sexual, percutaneous, or by blood products. Symptoms may vary from none to mild respiratory symptoms, to persistent symptoms including weight loss, fatigue, diarrhea and night sweats. Oral manifestations may be the first sign of clinical disease or may arise during the course of the disease.[16-19] Oral findings may include tumours; Kaposis' sarcoma, oral lymphoma, squamous cell carcinoma, and infections; candidiasis, herpes simplex and viral papillomas. A unique white lesion, hairy leukoplakia,

affecting the lateral borders, has been described. Progressive periodontal disease has also been seen in patients infected with HIV.

This virus is less infectious by the percutaneous route than hepatitis B virus. As with HBV, the airborne and oral routes have been demonstrated not to result in infection. Very few of the reported cases of HIV infection and AIDS among health care workers in the United States have been associated with a specific occupational exposure; most infections were believed related to risk factors other than occupation.[20,21] The majority of exposures that may occur during patient care include mucosal splashes, needle-stick or sharp instrument wounds and contamination of open cuts, or dermatitis. The necessary precautions are those for hepatitis B: prevention of percutaneous exposure, the use of barrier techniques (gloves), and aseptic techniques.

Varicella-Zoster virus (**Figs. 8** and **9**): Chickenpox is an infection of childhood and is spread by direct contact via droplets or skin-to-skin contact with the lesion (possibly). A characteristic vesicular rash develops after incubation of approximately two weeks. In children, constitutional symptoms and fever may be mild. Lesions may affect the oral mucosa and may precede the skin lesions. As most of the dental team will have had chickenpox, they are not at risk if exposed. However, health care workers looking after immuno-suppressed children should ensure that they are not susceptible by having an antibody test performed. If they have no antibody, a live virus vaccine may be indicated. Immunization in this case is not for personal protection, but to protect susceptible patients. For other dental team members, little precaution is necessary. Shingles (herpes zoster) is a manifestation of reactivation of the latent viral infection. It is not highly infectious but virus is present so lesions should be covered. The presence of shingles is not a contraindication for dental care, either for patients or providers, depending only on the severity of the patient's symptoms.

Epstein-Barr virus (EBV) and cytomegalovirus (CMV): These two viruses of the herpes group are common in the mouth. EBV may cause infectious mononucleosis and hepatitis and has been associated with nasopharyngeal cancers and Burkitt's lymphoma. EBV mononucleosis presents with fever, malaise, pharyngitis and lymphadenopathy. Oral findings may include an acute inflammatory gingivitis and petechiae in the palate as well as a marked pharyngitis.

CMV may result in an acute viral illness, with fever, rash and CMV mononucleosis, hepatitis and/or mucositis of the gastrointestinal tract. It is perhaps the best adapted virus to the oral cavity with its ability to infect the salivary glands, and presence in saliva. Relatively little is known about routes of spread. Direct contact may be required in infection,[22] but studies of health care providers, particularly pediatric nurses, show that infection is not increased over the rates in a comparable group of the public, although CMV is relatively common on pediatric wards. Transmission is well documented.[22] Because an increased risk of transmission has not been demonstrated in health care workers, even though these viruses are present in the mouth, usual standards of infection control appear adequate.

DISCUSSION

Health care workers are exposed to potential pathogenic organisms through their professional activities, and patients can also be exposed during treatment. The individual may not realize the potential to transmit an infectious agent due to few, if any, symptoms during incubation, the course of the illness and during the carrier state. Health care workers should therefore be aware of the various agents that may present a risk, the signs and symptoms of infections and patients' past diagnoses. The health care worker should maintain a personal up-to-date immunization for his/her protection and in order to prevent transmission to patients. Standards of infection control must be in place for all patient contacts. The precautions developed for control of hepatitis B infection will be effective for the infectious agents of most concern[23] (**Table I**).

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ANTIBIOTIC ADMINISTRATION AND ORAL CONTRACEPTIVE FAILURE

A DRUG INTERACTION TO NOTE

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ABSTRACT

The control of oral infections and their treatment with antibiotics is an important part of dental practice. Oral contraceptives continue to be the most common form of contraception utilized by Canadian women of child-bearing age. There are now numerous reports in the literature of unexpected pregnancies in reliable patients using oral contraceptives who are treated with short courses of antibiotics, including those commonly used by dentists, such as penicillin V (phenoxymethyl-penicillin), ampicillin, tetracycline and metronidazole. This paper examines the mechanism of oral contraceptive/antibiotic interaction and provides the dentist with some advice to give his patients in order to minimize the potential impact of this interaction.

SOMMAIRE

La maîtrise des infections buccales et leur traitement avec des antibiotiques constituent une importante partie de l'exercice de la médecine dentaire. Les contraceptifs buccaux sont toujours le moyen de contraception le plus commun qu'emploient les Canadiennes capables d'enfanter. On trouve maintenant de nombreux rapports signalant des grossesses imprévues chez des patientes dignes de confiance qui prenaient des contraceptifs et étaient, pour une courte période, traitées aux antibiotiques, y compris ceux que les dentistes utilisent souvent comme la pénicilline V (la phénoxyméthyl-pénicilline), l'ampicilline, la tétracycline et le métronidazole. Dans cet article, on étudie le mécanisme des contraceptifs buccaux et l'interaction des antibiotiques, puis on donne au dentiste des conseils qu'il pourra transmettre à ses patientes afin de minimiser les conséquences que peut entraîner cette interaction.

ORAL CONTRACEPTIVES

Oral contraceptives remain the most popular and reliable method of preventing pregnancy, short of sterilization. In Canada an estimated three million women visit their physicians annually to discuss contraceptive methods, and during these sessions, oral contraceptives are mentioned 88 per cent of the time. They are used by 44 per cent of Canadian women who use some form of contraception.[1] Based on these observations, it is logical to assume that a significant number of women attending a dental clinic will be using oral contraceptives.

Popular oral contraceptive agents contain combinations of estrogen and progestogen-like agents and have a complex mode of antifertility action. They suppress ovulation by inhibiting the hypothalamic/pituitary hormonal stimulation of the ovaries. They also alter the properties of cervical mucous, inhibiting sperm penetration and cause endometrial atrophy, hindering implantation.[2] In addition to their role as antifertility agents, oral contraceptives are used to treat endometriosis, hirsutism and acne, dysmenorrhea, benign breast disease, premenstrual syndrome, menses-induced iron deficiency, some ovarian cysts and post-surgical hypogonadal states.

In an effort to decrease the untoward effects of oral contraceptive therapy, there has been a trend towards prescribing agents with lower dosages of both estrogen and progestogens. In 1978, the Special Advisory Committee on Reproductive Physiology to the Health Protection Branch of Health and Welfare Canada stressed the importance of using oral contraceptive preparations containing 50 micrograms of estrogen or less.[3] In their 1985 report, that same committee recommended a further reduction to products containing 30 to 35 micrograms of estrogen. With this trend towards lower dosages of contraceptive steroids, drug interactions leading to decreased oral contraceptive effectiveness have the potential to increase in frequency.[4]

ANTIBIOTICS

The prescribing of antibiotics is a very important part of dental practice. Antibiotics are used to treat acute and chronic oral infections. They are also used for the prevention of post-surgical infections and for the prophylaxis of infections distant from the surgical site, such as subacute bacterial endocarditis, in patients who are deemed to be at risk. More recently, certain tetracycline antibiotics have been used as adjuncts to the mechanical methods of treat-

TABLE I

Some Antibiotics Which May Decrease Oral Contraceptive Efficacy

MEDICATION	INTERACTION
PENICILLINS	
Penicillin V Ampicillin Amoxicillin	Altered gut flora and decreased enterohepatic recirculation of estrogens[1,4,13,15,18,19]
CEPHALOSPORINS	
Cephalexin	Altered gut flora and decreased enterohepatic recirculation of estrogens.[18]
TETRACYCLINES	
Tetracycline	Altered gut flora and decreased enterohepatic recirculation of estrogens. Hepatic microsomal enzyme induction[1,4,14]
MACROLIDES	
Erythromycin	Altered gut flora and decreased enterohepatic recirculation of estrogens. Hepatic microsomal enzyme induction.[1,18]
ANAEROBIC-ANTIPROTOZOAL	
Metronidazole	Altered gut flora and decreased enterohepatic recirculation of estrogens.[1,15]
ANTITUBERCULOUS	
Rifampin	Hepatic microsomal enzyme induction.[1,9,10,12]

ing periodontal disease.[5,6] In addition to the adverse drug reactions directly attributable to each antibiotic agent, it is also imperative that practitioners be aware of the potential drug interactions that antibiotic agents may have with other commonly used preparations such as oral contraceptives.

DRUG INTERACTIONS

The simultaneous use of several therapeutic agents for an individual patient has become commonplace. This sets the stage for many potential drug interactions, the consequences of which can be beneficial, causing enhanced therapeutic effectiveness, or adverse, resulting in either diminished therapeutic effectiveness or enhancement of toxicity.[7] In the case of the concurrent use of oral contraceptives and antibiotics, there are reports of diminished oral contraceptive effectiveness.

Since the introduction of oral contraceptives, their efficacy has been almost taken for granted.[8] Those rare cases where pregnancy occurred, despite patient compliance, led some clinicians to look for a cause. In 1971, Reimers and Jezek[9] reported the first link between concurrent antibiotic usage and oral contraceptive failure. This was reported in patients being treated with the antituberculous agent, rifampin. A high incidence of breakthrough bleeding was noted in 68 of 88 patients using oral contraceptives and rifampin simultaneously.[10] Breakthrough bleeding is regarded by some authors as a sign of loss of contraceptive efficacy if not experienced previously in a given patient using the same contraceptive preparation continuously.[4] Five of the 88 patients studied by Reimers and Jezek became pregnant unexpectedly,[10] and this exceeds by far the reported failure rate of 0.2 to 1.5 pregnancies for every 100 women using the birth control pill.[10] Skolnick[11] subsequently reported the case of a woman who became pregnant twice within six months while using rifampin and an oral contraceptive preparation. Hempel et al[12] later showed that rifampin was responsible for the induction of hepatic microsomal enzymes which resulted in a more rapid metabolic breakdown of estrogen.

Subsequent reports have been published implicating more commonly used antibiotics. In a brief letter in 1975, Dossetor[13] reported three cases of pregnancy in patients taking short courses of ampicillin while on oral contraceptives. Bacon and Shenfield[14] published a similar case of a woman taking tetracycline, and Joshi[15] reported the same observation with ampicillin and metronidazole.

By 1986, 63 cases of contraceptive failure in women receiving antibiotics concurrently with oral contraceptives had been reported to the British Committee of Safety of Medicines.[16] The antibiotics most frequently cited were ampicillin, penicillin and tetracycline. In 1982, DeSano and Hurley[17] noted 16 pregnancies over a two-year period in patients who were taking a variety of antimicrobials, including penicillin, ampicillin, tetracyclines and antihistamines, together with their oral contraceptives. Most recently, Bainton[18] reported an unexpected pregnancy in a 19-year-old woman who was taking a low-dose estrogen preparation and who received a single intra-muscular benzathine penicillin injection for the removal of her third molars.

To date, ampicillin remains the most frequently reported antimicrobial, after rifampin, to cause unintended pregnancies in women taking an oral contraceptive and antibiotic concurrently.[19]

All the foregoing are case reports and retrospective analyses. A few studies involving small numbers of patients have tried to examine prospectively how antibiotics affect plasma ethinyl estradiol levels.[19] Friedman et al[20] studied 14 women treated with ampicillin while using a contraceptive preparation containing 50 micrograms of ethinyl estradiol. They failed to show any effect of ampicillin on oral contraceptive effectiveness, but a small sample size was used, and it may have been wiser to use a 35 microgram preparation.

Back et al[21] reported the results of a study on 13 women using specified doses of oral contraceptives and 500 mg of ampicillin three times a day. They found no significant changes in most of their patients, although two women had significantly reduced plasma ethinyl estradiol levels during cycles when treated with ampicillin.

Although there are numerous case reports implicating an antibiotic-oral contraceptive interaction, the actual incidence of this interaction is difficult to calculate from such reports. Under-reporting of drug interactions has been a problem. Often, two different practitioners in different specialties may prescribe multiple agents to the same patient, and the associated drug interaction may go unnoticed by both practitioners. The actual incidence of unintended pregnancies following concurrent antibiotic and oral contraceptive treatment is thought by some authors to be low.[4] However, the interaction between oral contraceptives and other drugs, resulting in decreased oral contraceptive efficacy, is more prominent today than in former years when oral contraceptives were given in larger doses.[1]

The mechanism of interaction for the penicillins and tetracycline-type antibiotics with oral contraceptives differs from that reported for rifampin. Estrogens such as ethinyl estradiol are well absorbed in the gastrointestinal tract. On average, approximately 60 per cent of the absorbed compound is metabolized on its first pass through the liver, to form conjugates with sulfate and glucuronide. These conjugates are excreted into bile and may be hydrolyzed by the bacteria in the gut to produce the unconjugated form of estrogen.[22] This estrogen is then readily reabsorbed and helps to maintain effective total serum levels of estrogen by the enterohepatic circulation.[1] These processes are upset by many

antibiotics (**Table I**) which kill the bacteria in the gut, needed to hydrolyze the conjugated metabolites and thereby preventing the enterohepatic recirculation of the estrogens.[22] Breakthrough bleeding, spotting and in some cases pregnancy are thought to correlate with the enterohepatic interference or hepatic microsomal enzyme induction by other drugs, despite the regular intake of hormonal contraceptives.[12]

These types of drug interactions are by no means limited to antibiotics but have also been widely reported with the anticonvulsants, phenytoin, phenobarbital and primidone. Some benzodiazepines, antihistamines and antacids have also been reported to cause breakthrough bleeding and unexpected pregnancies on an anecdotal basis or as isolated circumstantial cases.[1,14,17,18]

RECOMMENDATIONS

Although the number of reported cases of oral contraceptive failure in women concurrently taking antibiotics may be low, the true incidence of such failures is unknown and cannot be predicted in individual cases.[1,17] This interaction should be of concern to all practitioners prescribing antibiotics. The Special Advisory Committee on Reproductive Physiology to the Health Protection Branch of Health and Welfare Canada recommends that the patient using oral contraceptives should be informed of any possible drug interactions that may occur when other drugs are administered.[1] Failure to advise patients that antibiotic therapy may reduce the effectiveness of oral contraceptives may be interpreted as failure to obtain proper informed consent for treatment from the patient. Concern exists in the literature over the possibility of malpractice action should an unintended pregnancy occur.[4,18,23]

All clinicians must take a thorough medication history. In patients using oral contraceptives who receive short courses of antibiotics, a supplementary method of contraception such as a barrier method during the period of therapy and for a short time thereafter, may be a wise precaution.[1] Patients may be counselled to use a diaphragm and foam, or condom and foam, along with their usual oral contraceptive while on antibiotic therapy and for the remainder of that particular cycle of their oral contraceptive. The substitution of the patient's oral contraceptive with a higher-dose preparation is not without risk and is not recommended.[1] Another possibility would be to contact the patient's physician prior to the initiation of antibiotic treatment, in order to counsel the patient regarding alternatives in contraception.

In summary, practitioners who prescribe antibiotics should be aware of this potentially serious drug interaction. They should be able to advise their patients that oral contraceptive effectiveness may be decreased by concurrent antibiotic treatment. Dentists should then either refer these patients back to their physicians or advise them to use alternate supplementary forms of contraception for the remainder of the cycle potentially affected by antibiotic treatment.

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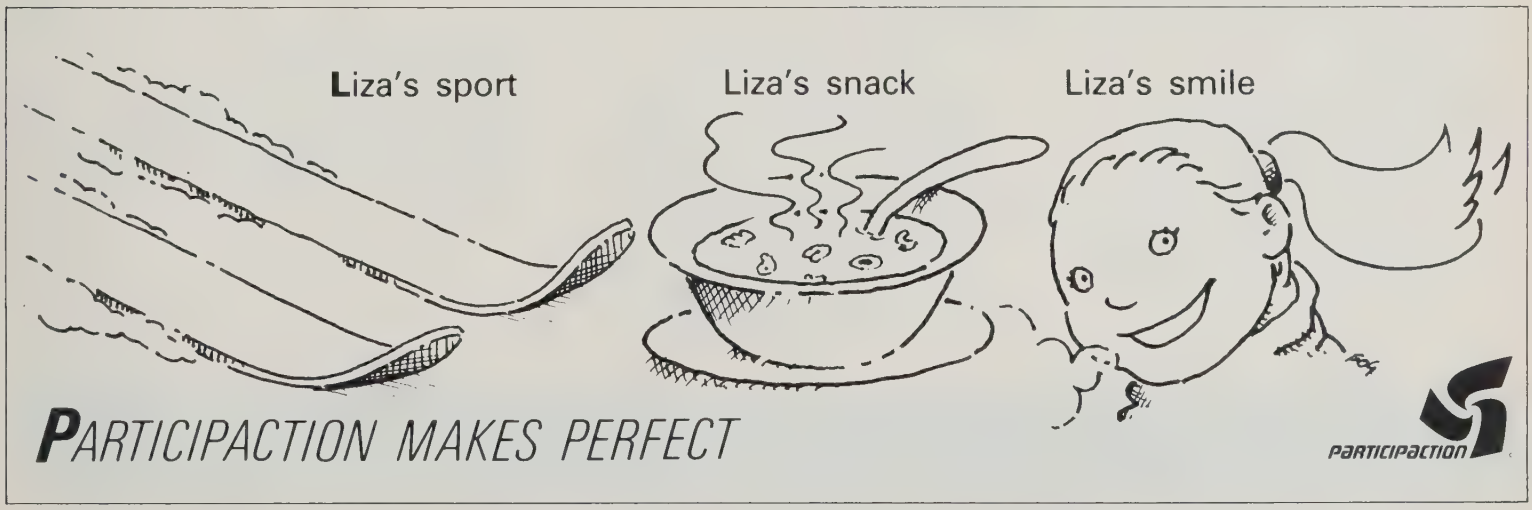

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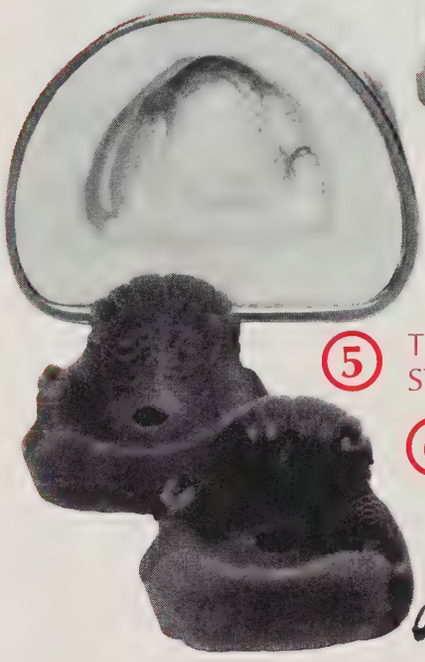

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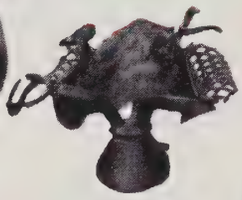

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DENTAL FINDINGS IN PATIENTS WITH CHRONIC RENAL FAILURE
AN OVERVIEW

David B. Clark, *DDS, MSc*
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ABSTRACT

Each year in Canada, there is a progressive increase in the number of patients undergoing hemodialysis treatment for end-stage renal disease (ESRD). Considerable success has been achieved in the management of chronic renal failure through the use of hemodialysis therapy.[1] However, despite the increased longevity afforded to these patients, there has been an unparalleled increase in the progression of uremic bone disease in some patients as a consequence of maintenance dialysis treatment. Hemodialysis fails to perform vital metabolic or endocrine functions and thus ignores the crucial calcium-phosphate imbalance.[2]

Renal transplantation coupled with vastly improved immunosuppressive therapy is the most successful major allograft procedure. The demand for renal transplants outnumbers the supply of suitable donor kidneys. Thus, chronic hemodialysis remains the mainstay of survival for these patients.

It is inevitable that the dental profession will be exposed to increasing numbers of patients undergoing chronic hemodialysis and/or receiving renal transplants, as new treatment facilities and transplant centres are established.

The purpose of this paper is to provide the dental practitioner with an update on our current knowledge of the clinical and radiologic oral findings in patients suffering from chronic renal failure and/or undergoing hemodialysis therapy.

SOMMAIRE

Chaque année, il y a, au Canada, un nombre de plus en plus grand de patients en hémodialyse pour insuffisance rénale terminale. Grâce à l'hémodialyse, on a obtenu de nombreux succès dans la gestion de l'insuffisance rénale chronique. Bien que les patients vivent plus longtemps, on a noté cependant qu'il y a chez eux une augmentation sans précédent des urémies osseuses à la suite des traitements. L'hémodialyse ne remplit pas des fonctions métaboliques et endocriniennes vitales, ignorant le déséquilibre crucial qui se développe dans le rapport calcium-phosphate.

La transplantation rénale associée à une thérapie immunodépressive grandement améliorée est la procédure allogreffe qui réussit le mieux. Comme les demandes pour les transplantations de reins dépassent le nombre de donateurs convenables, l'hémodialyse chronique reste le principal moyen d'assurer la survie des patients.

Il est donc inévitable que les praticiens dentaires devront traiter de plus en plus de patients en hémodialyse chronique ou avec une transplantation rénale, étant donné que les services de traitement et les centres de transplantations se multiplient.

Cet article a pour but de mettre le praticien dentaire au courant des dernières connaissances acquises en médecine dentaire et en radiologie buccale touchant les patients souffrant d'une insuffisance rénale chronique ou recevant des traitements d'hémodialyse.

By definition, chronic renal failure is a progressive and irreversible decline in the total number of functioning nephrons, with a concomitant decline in the glomerular filtration rate. A detailed classification of the causes of chronic renal failure is illustrated in **Table I**.

The kidney is a multifaceted organ which performs numerous essential functions

including: 1) excretion of metabolic waste products, 2) regulating acid-base balance, 3) monitoring body concentrations of water and sodium and, 4) secretion of essential hormones such as erythropoietin and renin.

The kidney performs a pivotal role in the endocrine control of calcium and phosphorus metabolism, largely through the formation of Vitamin D_3 (1,25-dihydroxycholecalciferol; $1,25\text{-}(OH)_2D_3$) within the mitochondrial fraction of renal cortical cells.[2-5] Only an overview of this complex disorder will be presented in this paper.

Early in the course of progressive kidney disease, a secondary or compensatory hyperparathyroidism develops due to the steady decline in the levels of serum calcium in the affected patient. The main causes of this progressive hypocalcemia are: 1) phosphate retention due to a reduced renal capacity to excrete phosphate, 2) a diminished production of the renal hormone, $1,25\text{-}(OH)_2D_3$ and 3) a reduced skeletal responsiveness to the calcemic action of parathyroid hormone (PTH). Decreased formation of $1,25\text{-}(OH)_2D_3$ in renal failure leads to a diminished production of calcium-binding protein (CaBP) in the intestinal mucosa, thereby depressing calcium absorption and potentiating a hypocalcemic state with an increase in serum PTH levels.

As illustrated in **Fig. 1**, the mechanisms of phosphate retention cannot be isolated from the alterations in vitamin D metabolism when considering the pathophysiology of chronic renal failure and in particular the pathogenesis of secondary hyperparathyroidism.[3,6] Wilson et al[7] considered it likely that each factor would dominate over the others during different stages of progressive renal failure.

A. EFFECTS ON MINERALIZED TISSUES (Radiographic Manifestations)

Skeletal changes have been recognized in end-stage renal disease since the late nineteenth century.[8] In 1943, Liu and Chen[9] proposed the term ''renal osteodystrophy'' to describe the changes occurring in bone secondary to chronic renal failure and chronic hemodialysis. The morphologic manifestations of renal osteodystrophy include combinations of osteomalacia and hyperparathyroid bone disease (also called osteitis fibrosa cystica, ''brown tumour'' of hyperparathyroidism or von Recklinghausen's disease of bone) in a setting of reduced, normal or increased bone mass.[10]

Osteomalacia develops from a mineralization defect and appears morphologically as a widened layer of osteoid in bone. Osteosclerosis may in addition be a common form of renal osteodystrophy, generally occurring in patients with advanced hyperparathyroidism showing severe osteitis fibrosa.[10] The main physiologic basis for the histologic and radiologic spectrum of renal osteodystrophy is considered to be the resorptive effective of PTH on bone.[11]

1. Radiologic changes: Bone

Renal osteodystrophy with secondary radiographic change in the jaws has been described previously.[12-24]

The often cited ''triad'' of radiographic features includes a total or partial loss of lamina dura, demineralization of bone, and localized radiolucent lesions (e.g. ''brown tumours'' of hyperparathyroidism). In 1980, Kelly et al,[22] noted that the aforementioned triad of changes appeared most frequently in the mandibular molar region superior to the mandibular canal.

i) Loss of lamina dura:

While much emphasis has been placed on the loss of lamina dura as a pathognomonic sign of hyperparathyroidism, the consensus of opinion currently in the literature has diminished the diagnostic importance of this finding. Loss of lamina dura may also be seen in fibrous dysplasia, neurofibromatosis, Addison's disease, Paget's disease of bone, Cushing's syndrome, osteomalacia, central giant cell granuloma, vitamin D resistant rickets and leukemia.[15,22,25-29]

Kennett and Pollick[16] considered the subperiosteal resorption of the middle phalange of the index and middle fingers to be of greater diagnostic importance than loss of the lamina dura in dentulous patients. Keating[30] examined surgically proven cases of primary hyperparathyroidism and concluded that subperiosteal resorption of the phalanges is the most underrated diagnostic test, while the absence of the lamina dura, the dental counterpart, was the most overrated test.

Walsh and Karmiol[15] felt that the loss of lamina dura as a diagnostic indicator of hyperparathyroidism became more credible when evaluated in conjunction with changes in surrounding bone, such as altered trabecular pattern, loss of anatomic landmarks and generalized radiolucency.

ii) Demineralization of bone:

Alterations in normal trabecular pattern and generalized demineralization of bone have given rise to numerous adjectives to

TABLE I

Causes of Chronic Renal Failure

Localized	Obstructive	Systemic
Proliferative glomerulonephritis	Upper urinary tract obstruction	Benign/malignant essential hypertension
Membranous glomerulonephropathy	Hydronephrosis	Polyarteritis nodosa
Chronic pyelonephritis	Retroperitoneal fibrosis	Disseminated lupus erythematosus
Tuberculous pyelonephritis	Neoplasm	Primary and secondary amyloidosis
Renal calculi	Lowe's urinary tract obstruction	Analgesic overconsumption
Congenital nephritis	Prostatic enlargement	Potassium deficiency
Polycystic disease	Adenoma	Hypercalcemia
Medullary cystic disease	Neoplasm	Cystinosis
Renal hypoplasia	Urethral stricture	Oxalosis
Renal tubular acidosis	Urethral valves	Consumption coagulopathies
Balkan nephropathy	Bladder neck obstruction	Hemolytic-uremic syndrome
	Neurogenic bladderm	Thrombotic thrombocytopenic purpura
		Postpartum renal failure
		Lead or cadmium poisoning
		Atheroma
		Systemic emboli
		Subacute bacterial endocarditis
		Rheumatic heart disease
		Gout
		Diabetes
		Heart failure
		Cirrhosis

Modified from Kerr[5]

describe these radiologic changes in both the jaws and other bones of the skeleton. Such terms include: "ground-glass", "granular", "chalky", "salt and pepper", "pepper-pot skull" and "peau d'orange" (orange peel).

In 1968, Houston et al[31] described a loss of distinct cortical bone outlining the hard palate, sinuses, nose and orbits in a case of secondary hyperparathyroidism due to chronic renal failure.

In 1969, two additional cases of chronic renal failure were investigated radiologically by Walsh and Karmiol[15] in which they described a fuzzy appearance of the mandibular canals and mental foramina in addition to an unusually broad radiolucent zone in the median maxillary suture. The floor of the maxillary sinuses also appeared indistinct. Widened irregular nutrient canals were also demonstrated on periapical films.

iii) Localized radiolucencies:

Circumscribed radiolucencies or "cyst-like" lesions may become a dominant radiographic manifestation in the jaws as well as long bones late in the course of severe hyperparathyroidism. These so-called "brown tumours" (Von Recklinghausen's disease of bone) represent foci of bony rarefaction filled with hemorrhage and granulation tissue with accumulation of macrophages and osteoclastic giant cells, making this lesion histologically indistinguishable from a central giant cell granuloma.

Silverman et al[27] considered the classic triad of bony changes to be a relatively insensitive indicator of parathyroid activity, proposing instead that radiographic jaw changes must be evaluated in conjunction with microscopic, clinical, biochemical and other radiologic findings in order to formulate a definitive diagnosis.

Maxwell and co-workers,[24] however, concluded from their study that dental radiography was as good a screening technique for evaluating renal osteodystrophy as hand radiography and, in many cases, was superior to axial skeleton radiography.

Bras et al[21] suggested that measuring the thickness of mandibular cortical bone could provide a useful parameter and diagnostic tool in evaluating metabolic bone loss. In their study, 9 of 12 patients with end-stage renal failure exhibited a significant decrease in the thickness of cortical bone at the angle of the mandible. This loss of bone correlated well with the degree of renal osteodystrophy as determined by iliac crest bone biopsy.

2. Radiologic changes: Teeth

A review of the English language literature reveals few reports describing the radiologic changes seen in teeth as a consequence of ESRD and/or hemodialysis. Walsh and Karmiol[15] stated in their discussion that the teeth are unaffected by the generalized demineralization of hyperparathyroidism. They felt that the teeth tended to be more radiopaque than normal due to the decreased densities in the adjacent lamina dura and surrounding bone. Doyle[32] suggested that teeth be used simply as a reference for comparison with associated bone changes. However, a few specific radiologic findings have been noted in the recent dental literature, in patients suffering from chronic renal failure.

Pulpal narrowing and calcification has been documented in 10 per cent of patients with ESRD as studied by Kelly and associates.[22] Pulp calcifications have also been reported by Hutton[33] and in 50 per cent of dialysis patients investigated by Maxwell and co-workers.[24]

In 1985, Nasstrom et al[34] reported a significant increase in narrowing of the pulp chamber in a group of patients who had received transplantation or hemodialysis (terminal uremia) versus non-uremic patients (e.g. glomerulonephritis) receiving only immunosuppressive therapy because of progressive renal disease.

In 1981, Nikiforuk et al[35] described a previously unreported phenomenon of dentinal bridging, associated with iatrogenic hypercalcemia, in a child with renal osteodystrophy being treated with high doses of vitamin D. The calcific bridges were approximately 2 mm. thick, and spanned the midpoints of the pulp canals in all permanent incisor teeth.

Hutton[33] recently described multiple intradental radiolucent lesions in six anterior teeth of a male patient who experienced a difficult period in the management of his calcium-phosphorus balance with hemodialysis. As the problem resolved with further dialysis so too did the radiolucent lesions.

Specific investigations concerning alterations in the dentine of patients with chronic renal failure have been carried out recently, with both light[23] and scanning electron microscopy.[36] The results obtained from these preliminary studies indicate that the metabolic interrelationships between bone, kidney and intestine may soon be extrapolated to include teeth as well.

B. EFFECTS ON ORAL SOFT TISSUES (CLINICAL MANIFESTATIONS)

Despite an abundance of well-documented pathologic alterations in various other organ systems, a detailed review of the literature dealing specifically with clinical oral manifestations of chronic renal failure and/or chronic hemodialysis reveals a paucity of actual observations.

In 1979, Chow and Peterson[37] reported an unusual case of secondary hyperparathyroidism in an eight-year-old boy, undergoing hemodialysis therapy. They documented: 1) bilaterally swollen submandibular glands, 2) mucosal pallor (secondary to the anemia precipitated by a lack of erythropoietin production, bone marrow depression and reduced red cell survival times) and, 3) a prolonged bleeding time (subsequent to heparinization during hemodialysis, as well as due to various platelet dysfunctions). In addition, all teeth appeared discoloured by dark brown stains, particularly in the gingival third. Liquid ferrous sulphate is often administered to these patients orally to ameliorate the anemic condition.

In 1982, using appropriate controls, Woodhead et al[38] examined the nature of the dental abnormalities in children with chronic renal failure. Enamel hypoplasia was the most common dental abnormality, limited exclusively to the experimental group.

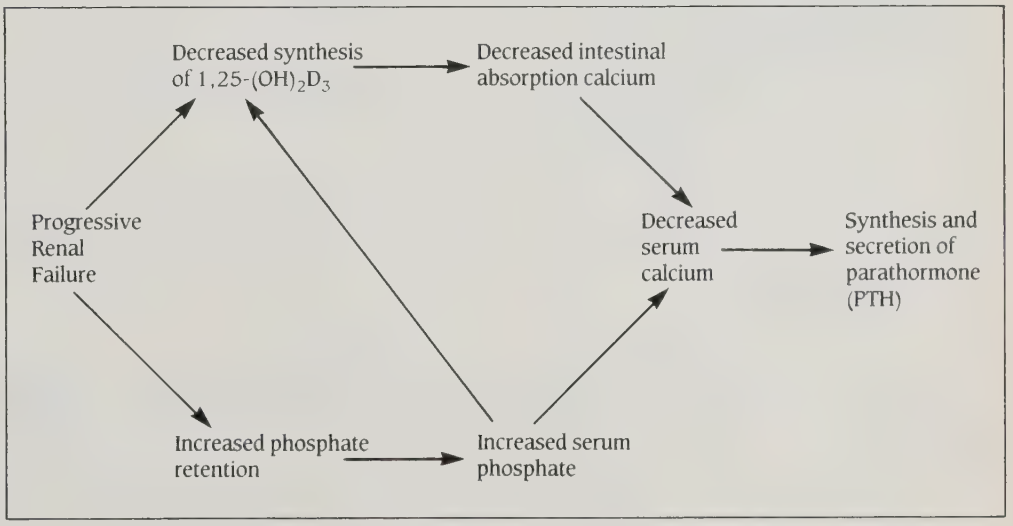

Fig. 1. Schematic representation of the pathogenesis of secondary hyperparathyroidism.

TABLE II

Summary of reported clinical and radiological oral findings in patients suffering from chronic renal failure and/or undergoing hemodialysis treatment.

CLINICAL	RADIOGRAPHIC	
	Jaws	Teeth
Mucosal pallor	Total/partial loss of lamina dura	Pulpal narrowing
Prolonged bleeding time	Demineralization of bone	Pulp calcifications
Extrinsic discolouration of teeth	Localized radiolucent lesions (''brown tumours'')	Dentinal bridging
Enamel hypoplasia		Intradental radiolucencies
Decreased rate of dental caries	Loss of distinct cortical borders:	
Tooth mobility	– hard palate – sinus – foramina	
Root resorption	– inferior alveolar canal	
Pain	Oral calcifications	
Premature tooth loss	Arterial calcifications	
Peripheral giant cell lesions	– facial artery – carotid artery	

The anatomical location of the enamel hypoplasia on the teeth correlated well with the age of onset of advanced renal failure ($P=0.002$). Other less frequently observed changes included discolouration and hypocalcification of the enamel.

Various investigators have reported a lowered rate of dental caries in patients suffering from chronic renal failure.[38] However, one must speculate whether the advantages of institutionalized dental care (better oral hygiene etc.) may have played a significant role in those observations.

Increased mobility with drifting and eventual loss of teeth have been reported in the literature.[12,20,27] An underlying ''brown tumour'' of hyperparathyroidism was eventually diagnosed in two of these studies.[12,27] In 1986, Boyce and his colleagues[39] reported tooth resorption, tooth mobility, dental pain and eventual tooth loss as significant clinical problems in renal dialysis patients with a diagnosis of oxalosis. In their discussion, they implicated a more recently described form of osteomalacia which is often associated with aluminum contamination of dialysis water. Aluminum appears to inhibit normal bone mineralization through its accumulation at the calcification front between osteoid and calcified matrix.[40-43]

Oral calcifications,[44] arterial calcifications[45] and peripheral giant cell lesions[2,40] have also been reported in patients with secondary hyperparathyroidism in chronic renal failure.

Table II provides a summary of the various clinical and radiologic oral findings that have been cited in the literature.

CONCLUSION

Due to the progressive increase in the number of patients treated by hemodialysis and/or renal transplantation in Canada each year, dental practitioners can expect to see more of these patients for routine dental care. Some patients may present with specific problems such as advanced dental neglect and increased susceptibility to infections; they will require specific management. Discussions of treatment modalities and treatment protocols for these patients are dealt with in the recent literature.[46]

This paper has attempted to update the practicing dentist about the clinical and radiologic oral manifestations which may be seen in patients with chronic renal failure who are receiving long-term hemodialysis. It is hoped that this information will be helpful in diagnosing and managing these patients.

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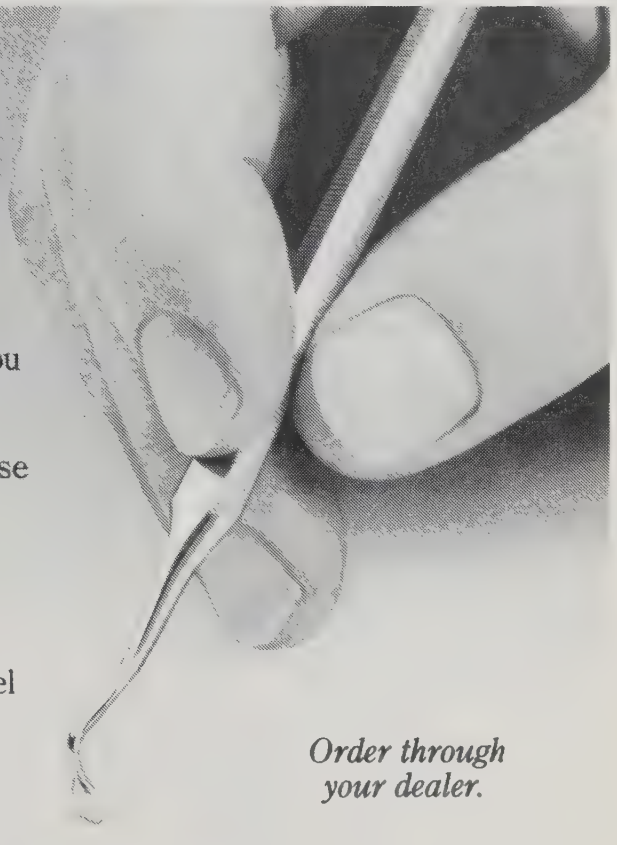

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Announcements

OCTOBER/OCTOBRE

October 7-10: 7th Panhellenic Dental Congress in Pireas, Greece Peace and Friendship Stadium. Contact: Hellenic Dental Association, 38 Themistokleous St., 106 78 Athens, Greece. Tel: 36.13.380 – 36.03.816.

October 10-13: American Dental Association Annual Convention. Las Vegas, Nevada. Contact: ADA office of international affairs, 211 E. Chicago Ave., Chicago, Ill. USA 60611.

October 16-18: International Academy of Oral Medicine and Toxicology, San Diego, California. Symposium on health hazards of dental materials. For more information call (619) 231-1624.

October 19-21: NIH Consensus Development Conference on Geriatric Assessment Methods for Clinical Decisionmaking, Masur Auditorium, Clinical Center, National Institutes of Health, Bethesda, Maryland. Contact: Marti Bernstein, Prospect Associates, 1801 Rockville Pike, Suite 500, Rockville, MD, 20852.

October 21-24: American Academy of Periodontology's 73rd Annual Meeting, Marriott and Fairmont Hotels, Denver, Colorado. Contact: Jean Pierson (312) 787-5518.

October 22-25: The 15th Expodental and the 2nd Expotechnodental, Milan, Italy, at the Milan Fair. Contact: Expodental, 20123 Milano, via Tamburini 2, Italy.

October 23-27: 44th Annual Meeting of the American Institute of Oral Biology, Spa Hotel, Palm Springs, California. Contact: Executive Secretary, P.O. Box 481, South Laguna, California, 92677.

October 24-30: 85th Annual World Dental Congress of the FDI. Buenos Aires, Argentina. Contact: Dr. R.H. Lemme, Congressos Internationales, SA, Moreno 584-9e, Piso (1091) Buenos Aires, Argentina.

October 29–November 1: Canadian Academy of Endodontics Convention, Toronto, Ontario. Contact: Dr. Martin Gelfand, 487 Lawrence Avenue West, Toronto, Ontario, M5M 1C6.

October 30-31: Periodontal Restoration Relationship Symposium, Toronto, Ontario. Clinicians include Dr. Herman Corn, Dr. Myron Nevins and Dr. Kenneth Malament. Contact: Professional Development, The Ontario Dental Association, 234 St. George Street, Toronto, Ontario, M5R 2P1, (416) 922-3900.

NOVEMBER/NOVEMBRE

November 3-6: Clinical course on rehabilitation of edentulism by means of osseointegration, Catholic University Leuven, Belgium. Contact the University at: Faculty of Medicine, Dept. of Periodontology, Capucijnenvoer 7, B-3000 Leuven (Belgium).

November 5-6: The Psychosocial Aspects of Craniofacial Problems; Surgery is not Enough, sponsored by the Humana Craniofacial and Pediatric Neurosurgery Institutes, Weston Hotel Galleria in Dallas, Texas. Contact: Linda Andrews, Humana Advanced Surgical Institutes, 7777 Forest Lane, Dallas, Texas, 75230.

November 5-7: Second District Dental Association of Pennsylvania's Annual Dental conference, Sheraton-Valley Forge Hotel and Convention Center, King of Prussia, Pennsylvania. Speakers will include Dr. Ronald Goldstein and Dr. R. Sheldon Stein. All day programs, table clinics and special programs. Contact: B.J. Dencler, Conference Coordinator, 1039 Louise Lane, Allentown, Pennsylvania, 18103. 215-820-4062.

November 5-9: Education, Attitudes, Motivation and Marketing, a venture trek outdoors seminar at Ohakune. Contact: South Pacific Seminars, 33 Arney Street, Auckland 5, New Zealand.

November 8-11: The Saul Kamen Seminar in the Management and Treatment of the Developmentally Disabled Dental Patient, at the Jewish Institute for Geriatric Care, New Hyde Park, New York. Contact: Ann J. Boehme, Associate Director for Continuing Education, Long Island Jewish Medical Center, New Hyde Park, New York, 11042. (718) 470-8650.

November 11-13: First International Congress on Oral Cancer, Singapore. Special features include Reconstructive and Microvascular Surgery. Speakers include Professor Westbury of Royal Marsden Hospital, U.K. and Professor Hugo Obwegeser of Switzerland. Contact: Dr. N. Ravindranathan, Organizing Secretary, First International Congress in Oral Cancer, Department of Oral and Maxillofacial Surgery, Faculty of Dentistry, National University Hospital, Lower Kent Ridge Road, Singapore, 0511.

November 18-20 Vancouver, **November 22-24** Toronto and **November 25-27** Halifax Shaping the Future: New Direction and Intervention Models. A national forum on long term care sponsored by the Cana-

dian College of Health Services Executives and the Canadian Long Term Care Association. For information, contact: Canadian College of Health Services Executives, 17 York St., Suite 201, Ottawa, Ont. K1N 5S7 (613) 235-7218

November 19, Oahu, **November 20**, Kauai: **An update on Pain Control and Emergency Medicine in Dentistry**, sponsored by the Hawaiian Dental Association. Contact the Continuing Education Committee of the Association at: 1000 Bishop Street, Suite 805, Honolulu, Hawaii, 96813.

November 19-22: XIX National & International Congress of the Dental Association of Mexico in Mexico City. Contact: Federacion Nacional de Colegios de Cirujanos Dentistas, Ezequiel Montes No. 92, Col. Revolucion, Delegacion Cuauhtemoe, 06030 Mexico D.F. 566-61-33.

Novembre 21-25: Festival international du Film et de la Vidéo dentaires–XIèmes Journées dans le cadre du Congrès International de l'Association Dentaire Française. Bulletins d'inscription au concours devront parvenir au Secrétariat avant le 15 février 1988. Renseignements et inscriptions: Dr. M. Dolovici, Secrétaire générale du Festival international du Film et de la Vidéo dentaires, 92 avenue de Wagram, 75017 PARIS.

November 26: Toronto Academy of Dentistry's 50th Annual Winter Clinic, Metropolitan Toronto Convention Centre, 255 Front Street West, Toronto, Ontario. Contact: Academy of Dentistry at (416) 967-5649.

November 27: Practice Management, Royal York Hotel, Toronto. Chuck Sorenson, lecturer. Fee: AGD members $125, non members $200. Contact: Dr. Marotta (416) 735-3310.

JANUARY/JANVIER 1988

January–April: Dental Refresher Program Contact: Continuing Education in Health Sciences UCLA Extension, 10995 Le Conte Avenue, Room 614, Los Angeles, California 90024 (213) 825-9187.

January 8: Dr. Gordon Christensen, "Dentistry Update" presented by the Ottawa Society for the Prevention of Dental Disease at the Talisman Motor Hotel, Ottawa, Ontario. Contact: Dr. D. O'Connor, 225 Metcalfe St., Suite 401, Ottawa, Ontario K2P 1P9.

January 19-23: Hawaii Dental Association's 85th Annual Scientific Session, Hilton Hawaiian Village Hotel, Honolulu, Hawaii. Contact the Association at (808) 536-2135.

January 21-24: 13th Annual Yankee Dental Congress in Boston Massachusetts. Over 125 scientific sessions and 400 technical exhibits. For information: Massachusetts Dental Society, 83 Speen Street, Natick MA 01760-4125 or call (617) 651-7511.

January 28-30: Miami Winter Meeting – A Climate for Excellence, Miami, Florida. Table Clinic applications are available. Contact: Dotti DuBreuil, East Coast District Dental Society, 420 South Dixie Highway, Suite 2-E, Coral Gables, Florida, 33146. (305) 667-3647.

January 28 – February 1: 13th Asian Pacific Dental Congress and 42nd IDA Conference, New Delhi, India. Theme Esthetic Dentistry. Contact: Secretariat, C-56, N.D.S.E. – II, New Delhi 110 049.

FEBRUARY/FÉVRIER 1988

February 10-13: Sports Medicine – For All Practitioners Course in Scottsdale, Arizona sponsored by the American College of Sports Medicine and the Children's Medical Center, Oakland, California. Contact: Stuart Zeman, M.D. Course Chairman, 2999 Regent St. #203, Berkeley, California 94705 U.S.A. (415) 540-8686.

February 19: Scientific Session of the Academy of Dental Materials, Hillenbrand Auditorium, American Dental Association, Chicago, Illinois. A poster session is planned. For information concerning this contact Dr. Evan Greener, Dept. of Biological Materials, Northwestern University Dental School, 311 E. Chicago Avenue, Rm. 10-019, Chicago, Illinois, 60611, USA. For information concerning the meeting phone (312) 908-6887 or (312) 642-9570.

February 19-20: Orthodontics in an Aging Society The Fifteenth Annual Symposium on Craniofacial Growth at the University of Michigan at Ann Arbor. For registration or more information, write to: Cranifacial Biology, The University of Michigan, 1024 Kellogg-Dental, Ann Arbor, Michigan 48109-1078.

February 20-27: Virgin Islands Dental Association Meeting Speakers: Dr. Ron Jordan – restorative, Dr. Gary Taylor – endodontics, Dr. Merril Menser – implantology. Social and spouse program. For information, registration and group rates at this limited attendance convention, contact: Dr. Robert Brandon, 85 Lonsdale Drive, London, Ont. N6G 1T4 (519) 657-3368.

February 26: Course by Dr. Terry Donovan, Contemporary Restorative Dental Materials – The pursuit of excellence. Calgary and District Dental Society. Contact: Dr. John Thompson 13 – 755 Lake Bonavista Drive S.E., Calgary, Alberta T2J 0N3. (403) 271-2777.

MARCH/MARS 1988

March 11-15: International Association for Dental Research meeting, Montréal, Québec. Contact: International Association for Dental Research, 1111 14th Street N.W., Suite 1000, Washington, D.C., 20005. (202) 898-1050.

APRIL/AVRIL 1988

April 14-17: California Dental Association's Spring Scientific Session, Anaheim, California. Contact: Cissie Cooper, 818 'K' Street Mall, Post Office Box 13749, Sacramento, CA, 95853-4749, (916) 443-0505, (800) 421-8702.

MAY/MAI 1988

May 15-20: 25th Australian Dental Congress, Sydney, Australia. "An international meeting during Australia's bicentennial". A limited number of brochures are available at the CDA, or contact: 25th Australian Dental Congress, P.O. Box 29, Parkville, Victoria, Australia, 3052.

JUNE/JUIN 1988

June 3-5: Annual Meeting of the Canadian Academy of Periodontology at the Pan Pacific Hotel in Vancouver British Columbia. The featured speaker is Dr. Jan Lindhe. For information, contact: Dr. E. Chesko, 104-520 17th St. West Vancouver, B.C. V7V 3S8, (604) 922-4711 or Dr. K. McAnulty, 304-126 E. 15th St., North Vancouver, B.C. V7L 2P9, (604) 980-5822.

JULY/JUILLET 1988

July 1-3: British Dental Association's Annual Conference, Harrogate International Conference Centre, Harrogate,

Yorkshire (UK). ''Facing the Future''. Contact: Linda Bridges, Conference Office, 64 Wimpole St., London, England. W1M 8AL.

AUGUST/AOÛT 1988

August 7-11: Ninth Congress of the International Association of Dentistry for the Handicapped, Philadelphia, PA. Contact: Public Relations, (215) 576-2303, Abington Memorial Hospital, Abington, PA. 19001.

August 21-24: Canadian Dental Association's Annual Convention, at the Edmonton Convention Centre, Edmonton, Alberta. Contact: Linda Teteruck, Canadian Dental Association, 1815 Alta Vista Dr., Ottawa K1G 3Y6. (613) 523-1770.

August 21-25: New Zealand Dental Association's Biennial Conference, Christchurch, New Zealand. Contact: Dr. E.A. Cope, Conference Secretary, 200 Cashel Street, Christchurch 1, New Zealand.

SEPTEMBER/SEPTEMBRE 1988

September 7-9: Bristol 88 World Dental Conference University of Bristol, England, U.K. Decisions in Forward-Looking Oral Health Care. For information contact: Mr. B.P. Matthews, Bristol 88 World Dental Conference, University of Bristol, Senate House, Bristol BS8 1TH ENGLAND, U.K.

September 23-25: California Dental Association's Fall Scientific Session, San Francisco, California. Contact: Cissie Cooper, Director, Scientific Sessions, CDA, 818 ''K'' Street Mall, P.O. Box 13749, Sacramento, California, 95853-4749. (916) 443-0505.

MISCELLANEOUS

The classified section of the Journal of the Canadian Dental Association is especially for you the dentist (not for commercial businesses). Take advantage of this marketplace to give you the results you want.

DENTIST REQUIRED

The Gravelbourg Economic Development Committee is encouraging applications, or inquiries, for a fully accredited Dentist [Rural Dental Practitioner], to establish a full time dental practice in a town of over 1300 population. Gravelbourg draws from a trade area of over 12,000.

Gravelbourg is a very attractive and desirable place to raise a family, located in a strong 'bilingual' farming community, 75 miles from the Cities of Moose Jaw and Swift Current, on the junction of Hwy's 43 & 58.

We boast a very good educational system, with College Mathieu being an added educational opportunity. As well, we boast one of the most beautiful Cathedrals in western Canada.

For further information, contact the following:

Ernest P. Karlson
Secretary-Treasurer
Economic Development Committee
P.O. Box 359
Gravelbourg, Sask.
S0H 1X0 Ph. 648-3301
or Mayor (Dr.) Draper 648-3227

TOWN OF PORCUPINE PLAIN · SASKATCHEWAN

DENTIST WANTED

Porcupine Plain a thriving community in the Northeast Parkland of Saskatchewan requires a dentist on a full time or part time basis.

Recently remodelled clinic with new major equipment in place and available at very reasonable rentals.

For further information contact:

Barry Warsylewicz
Administrator
Town of Porcupine Plain
Box 310
Porcupine Plain, Sask.
S0E 1H0
(306) 278-2262

The University of Manitoba

DEAN OF THE FACULTY OF DENTISTRY

The University of Manitoba invites applications and nominations for the position of Dean of the Faculty of Dentistry. The Faculty offers programs leading to the degrees of Doctor of Dental Medicine, Bachelor of Science in Dentistry, Master of Science and Doctor of Philosophy, and diplomas in Dental Hygiene, Oral and Maxillofacial Surgery and Periodontology. Enrolments are currently 118 FT (DMD), 8 FT (B. Sc. Dent.), 40 FT and 12 PT (DDH) and 12 FT and 4 PT graduate students. The Faculty comprises approximately 54 FTE Academic and 51 FTE support staff. It is engaged in extensive service programs in Manitoba and the far North.

Candidates should have: a D.M.D./D.D.S. degree or equivalent or a doctorate in an area related to Dentistry; demonstrated knowledge of and experience in dental practice or research; previous successful administrative experience; demonstrated ability to relate to others, e.g. university units, professional organizations, health agencies, governments and communities; and a significant record in teaching, practice or research, and publications.

The University encourages both women and men to apply. In accordance with Canada Immigration and Employment requirements, priority will be given to Canadian citizens and permanent residents of Canada.

The appointment is expected to commence on July 1, 1988 and will be for a term of up to ten years.

Applications (including a curriculum vitae and the names of three referees) or nominations will be received until November 16, 1987 by:

Professor R.A. Johnson,
Associate Vice-President (Academic),
Chairman, Advisory Committee for the Dean of Dentistry,
Room 208, Administration Building,
The University of Manitoba,
Winnipeg, Manitoba,
R3T 2N2.

ACCIDENTS DE LA CIRCULATION DOMMAGES MATÉRIELS PRÉJUDICE PERSONNEL

L'assurance RC Umbrella de la vie privée du RADC amortira le choc !

Les poursuites en responsabilité civile et les dommages-intérêts accordés par les tribunaux augmentent continuellement en nombre et en taille. Les dommages-intérêts supérieurs à $ 1 000 000 n'ont rien d'inhabituel dans l'industrie canadienne des assurances.

Si vous devez faire face à des poursuites pour des montants supérieurs à vos assurances de la responsabilité civile, tant personnelles qu'automobiles, votre patrimoine personnel pourrait être menacé. Protégez-vous avec l'assurance RC Umbrella de la vie privée du RADC.

Cette assurance vous offre des montants de garantie de $ 3 000 000, $ 4 000 000 ou $ 5 000 000 en plus de vos propres assurances personnelles pour les risques reliés à votre maison ou à votre appartement, à votre voiture, à votre résidence secondaire, à vos véhicules récréatifs et à certains bateaux.

Ne prenez pas de risque—laissez-vous protéger par l'assurance RC Umbrella de la vie privée du RADC. Appelez dès aujourd'hui pour obtenir de plus amples détails.

Pour de plus amples renseignements contacter le CDSPI, sans frais, et un agent d'information se fera un plaisir de vous aider.

CDSPI

1•800•268•54•18 Provinces de l'Ouest, provinces atlantiques et région de l'Ontario avec l'indicatif régional 807. **1•800•268•34•11** Québec et Ontario, sauf pour la région avec l'indicatif régional 807. **497•71•17** Toronto et environs.

Régimes parrainés par vos associations dentaires nationale et provinciales et administrés par le CDSPI,
2, square Lansing, Bureau 600, Willowdale, Ontario M2J 4Z3
Le texte ci-dessus a été approuvé par nos consultants/courtiers et nos assureurs.

IMPORTANT

RELÈVEMENT DE 5% DES GARANTIES CONTENU ET PERTES D'EXPLOITATION

*La lutte anti-inflation se poursuit ! A compter du 1er janvier 1988, toutes les garanties Contenu et Pertes d'exploitation en vigueur le 15 octobre 1987 seront relevées de 5 %.**

Le CDSPI applique ce genre de relèvement à l'occasion pour vous aider à rester convenablement assuré malgré l'augmentation des prix du matériel et des fournitures.

Votre facture du 1er janvier reflétera automatiquement ce relèvement de garantie. Nous n'avons toutefois pas l'intention de l'imposer à ceux qui n'en ont pas besoin. Tous les participants possédant ces garanties devraient avoir reçu un avis au mois de septembre. Si vous ne désirez pas profiter du relèvement, il vous suffira de nous renvoyer l'avis après l'avoir signé.

Malgré ce relèvement de 5 %, vous risquez d'être encore sous-assuré. Vous pourriez peut-être profiter de cette occasion pour revoir vos garanties, si vous ne l'avez pas fait récemment, en particulier si vous avez acheté du matériel ou avez apporté des changements à votre cabinet. N'oubliez pas que vous devez assurer le contenu de votre cabinet – y compris l'ameublement, les fournitures et les améliorations locatives – pour 100 % de sa valeur à neuf. En ce qui concerne l'assurance des pertes d'exploitation, votre montant de garantie doit être au moins égal à quatre fois vos honoraires mensuels les plus élevés.

N'hésitez pas à appeler le CDSPI pour tous renseignements supplémentaires dont vous pourriez avoir besoin.

**Sous réserve des critères d'admissibilité habituels.*

CDSPI

1.800.268.54.18	**Provinces de l'Ouest, provinces atlantiques et region de l'Ontario avec l'indicatif régional 807**
1.800.268.34.11	**Québec et Ontario sauf pour la région avec l'indicatif régional 807**
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Régimes parrainés par vos associations dentaires nationale et provinciales et administrés par le CDSPI.
Le texte ci-dessus a été approuvé par nos consultants/courtiers et nos assureurs.

INSTRUCTIONS FOR CONTRIBUTORS

(Scientific articles)

Previously unpublished articles, critical reviews of material on advances in dentistry and clinical reports are welcomed by the Journal of the Canadian Dental Association for consideration for publication. Material is accepted by the Journal on the understanding it is submitted solely to this publication.

Scientific Articles: should not exceed 2,500 words with a minimum number of illustrations, diagrams, photographs, tables or graphs. An average of 20 references is acceptable.

Major Reports: are longer contributions dealing with diagnosis and treatment of dental disease, studies in education, clinical and laboratory research and other detailed investigations pertinent to dentistry and related fields.

Clinical Reports: are brief (up to 1,500 words) reports, case histories and clinical observations. References should be limited and a minimum number of illustrations used.

Opinions: fully documented (800 words or less), are welcome for publication at the discretion of the editor.

Word Count: is based on the calculation of approximately 250 words typed, doubled-spaced on 8½ × 11 paper.

Manuscript Requirements: Submit three (3) copies (original and two copies) to the editor, Journal of the Canadian Dental Association, 1815 Alta Vista Drive, Ottawa, Ontario K1G 3Y6. All graphs, photographs, charts and tables must also be submitted in triplicate.

A covering letter and a summary of the submission must accompany each article. Abstracts will be translated into French. The full mailing address of the corresponding author must accompany each manuscript.

The editor reserves the right to edit manuscripts for stylistic consistency, clarity and conciseness. The corresponding author will receive a copy of the edited manuscript for checking prior to publication. Galley proofs will be forwarded to authors but changes other than correction of typographical errors will not be accepted. Authors will be given a 24-hour turnaround time. No exceptions will be made. Authors must list professional degrees, academic/hospital affiliations and appointments and are requested **to submit a photograph** of themselves for publication with the article.

Note: Manuscripts must be typed, doubled spaced on 8½ × 11 paper on one side of the page only. An abstract must accompany each manuscript.

References: must be keyed to the text and numbered consecutively. Journal references must give the author's name, article title, abbreviated journal name, volume number, first page number and last page number of article, year of publication:

1. Hechter, F.J. Symmetry and dental arch form of orthodontically treated patients. JCDA 44:173-184, 1978.

For books, give the author's name, book title, location and name of publisher, year of publication:

2. Kilpatrick, H.C. Work simplification in dentistry, ed. 2. Philadelphia, Saunders, 1964.13

Permission and Waivers: must accompany the manuscript. Waivers are mandatory for the publication of photographs of patients unless faces are masked to prevent identification. Waiver forms are available from the Journal of the Canadian Dental Association, Ottawa. Permission of the author and publisher must be obtained for use of previously published material quoted in the text and for use of previously published illustrations.

Costs: Four-color illustrations are discouraged because of increasing costs of reproduction but requests for four-color illustrations will be considered on an individual basis, at the author's expense. Most articles are published at no cost to the author but a fee will be levied if extensive illustrative, formular, tabular or photographic matter is used.

Reprints: are available. Reprint request forms will be mailed to the corresponding author after the article is published and 25 reprints are available free of charge.

Review: all scientific articles are reviewed by selected consultant referees. Acceptance or rejection of an article for publication is based on their reports plus editorial consideration. The editor reserves the right to adjust manuscripts to conform to Journal style.

Please direct all enquiries to: The Editor, Journal of the Canadian Dental Association.

Marketplace

OFFICES AND PRACTICES

YUKON: FOR SALE – Two operatories available within a very preventive oriented family practice, equipped with both a Ceph and Panorex. Full time hygienist on staff and we also have the services of an oral surgeon, periodontist and orthodontist visiting on a regular basis. Excellent patient flow and an ideal location for the outdoor enthusiast. Further details will be provided upon request. Please contact Dr. R.E. Pearson (403) 668-3152

BRITISH COLUMBIA—Kelowna: Practice for sale or lease. Two fully equipped operatories. Willing to negotiate easy terms with very little capital outlay. Any questions give me a call. Dr. Stan Dovich (604) 765-2938 or (306) 236-3655.

BRITISH COLUMBIA—Mission: Busy, preventive practice located in the beautiful, fast growing Fraser Valley (only 50 minutes by car from Vancouver). 1000 sq. ft., two fully equipped operatories with room to expand to three. Excellent opportunity for hospital dentistry. Call Dr. Mike Nicholls (604) 826-4815 or (604) 852-3602.

BRITISH COLUMBIA – Nanaimo: 1480 sq. ft. practice in large enclosed mall. Two years old and extensively equipped with quality apparatus (e.g. OP 10, Kavo, ADEC). Two operatories completed with three others roughed in. Phenomenal new patient flow. Very tastefully decorated with quality materials. Priced for quick sale. If you wish to practice in an area with one of the finest climates in Canada (and with the most affordable real estate), yet only a 1 hour drive from Victoria and 1 1/2 hours by ferry from Vancouver, then phone Dr. Robert Scott at (604) 756-1300.

BRITISH COLUMBIA—Sunshine Coast: Well established private family practice in growing recreational/mill town on sea and lake. Leaving to begin semi-retirement. My great staff wants the practice to continue with caring dentist. Info package – Dr. Marv Olson, 4662 Marine Ave., Powell River, B.C. V8A 2L1 Phone: (604) 485-2851 or 725-3727.

BRITISH COLUMBIA—Downtown Vancouver: Beautiful, bright and well organized practice with above average gross for sale. Excellent downtown location with gorgeous view from each operatory. Owner will associate for smooth transition with purchaser. Call evenings (604) 922-3722.

BRITISH COLUMBIA—Vancouver: Family practice in modern med-dent building on Broadway. Beautiful view of city. 500 sq. ft. one chair office – possibly two. Ideal for semi-retirement. General anaesthesia facilities. Phone (604) 873-5717.

MANITOBA—Swan River: Progressive, established family practice for sale in prosperous agricultural community near parkland and recreational opportunities. Restorative dental hygienist. 3 ops with modern equipment. Good recall. Owner relocating. Please reply in confidence to Dr. D. Wilkie, Box 1000, Swan River, Manitoba, R0C 1Z0 or phone (204) 734-4701 (evenings).

BRITISH COLUMBIA—West Vancouver: Well established family practice for sale, as well as quarter share in group practice – owned building on the beach. 49 year old practitioner retiring. Reply (H) (604) - 926-2596 – (B) (604) 922-0144.

BRITISH COLUMBIA—Victoria: Active practice, great clientele. Demonstrated transferable to new practitioner. Your opportunity to practice in converted house in one of the nicest residential areas. Caring practitioner join this congenial group of three. Reasonably priced. New expansion plans. Call (604) 384-7224.

ALBERTA—Edmonton: Progressive quality practice for sale immediately in downtown core. Three operatories. Owner retiring early and will assist in transition. Terms negotiable. Phone (403) 420-6715 or (403) 483-8801 (evenings).

ALBERTA—Nanton: Small town practice close to Calgary, 8 year old practice in 1500 sq. ft. modern professional building. Three operatories each with x-ray, panarex, professional appraisal available. Be your own boss. (403) 646-2956 after 6:00 p.m. mountain time.

SASKATCHEWAN: PRACTICE FOR SALE – Fully modern equipped Pelton & Crane 5 operatory preventive oriented practice doing all aspects of dentistry. Owner wishes to return to school but will remain for 1 year after sale for transitional purposes. Phone (306) 384-7191 (office) or (306) 955-2234 (home).

SASKATCHEWAN—Kerrobers: Newly established dental practice for sale in small town Saskatchewan. Owner moving for personal reasons. Practice expected to increase considerably with changes in dental plan. May be purchased without equipment and with good lease. If you like hassle free lifestyle – security for family – good place to raise children, contact Don at (306) 834-2241.

ONTARIO – For sale – Three dental practices with two that net six figures individually. Could be purchased separately or together. Quality, family oriented practices. Super deal for a new graduate or an experienced operator. Contact CDA Box 2376.

ONTARIO–Hamilton: Practice for Sale – Busy Practice, 3 fully equipped operatories with Pelton Crane rear delivery systems in nice small town about 35 minutes north of Hamilton with high gross. Enjoying small town tranquility and neighbouring big city amenities. Especially good for husband and wife team. CDA Box 2379.

ONTARIO–Peterborough: ASSOCIATE – SALE OF PRACTICE Associate required to assume 40 year old established practice – May 1988. Please contact CDA Box 2378.

ONTARIO–Southwest: Busy, established family practice for sale in small town. Modern 30' × 50' building, air conditioned, two well-equipped operatories. Reception and business areas, lab, kitchen, private office and staff room. Well-trained staff available. Excellent opportunity. Please call (416) 281-0302.

ONTARIO–Sudbury district: For sale six year old family practice, one operatory, lab and reception area. Low overhead, good as satellite, underserviced area grant available. Will consider an associate. Phone: 705-437-3821 or 705-898-2108 or 416-775-5379.

ONTARIO: Pediatric Dental practice, in North East (central) Toronto, available for associate, partner or buy out. Present owner will remain, in whatever capacity desired, for as long as mutually agreeable. Very successful (financially and professionally) progressive practice – flexible financing. Please write or call Dr. Marvin Klotz, Suite 403, 4800 Leslie St., Willowdale, Ontario, M2J 2K9. (416) 493-2211.

QUÉBEC: Pratique établie depuis 9 ans dans un centre médico-dentaire. Deux salles Cox, Cox Lab (possibilité d'une troisième), Panelipse, turbines fibre-optique. Clientèle familiale et jeune. Hygiéniste désireuse de rester. Très vaste et éclairé. Vente inclut part dans l'immeuble. Dans les superbes Cantons de l'Est (Coaticook). Raison: Association avec conjoint. Dr. E. Crépeau (819) 849-2692 ou (819) 563-7379 (après 20h!).

NOVA SCOTIA: Exceptional opportunity. Very busy modern practice available in beautiful South Shore of Nova Scotia. Well established, family oriented, excellent income. Contact: (902) 454-9027 or write 6452 Vienna Street, Halifax, Nova Scotia, B3L 1S8.

NOVA SCOTIA–Halifax–Established downtown general practice for sale, located in central business district. Sale includes share of modern equipment, sundries, and term lease of office space. Practice includes a large recall clientele, (mostly adult). Suitable for an experienced operator or two graduates. Apply to Box CDA 2327.

TRINIDAD–West Indies: For sale, very high quality practice established 1952. Many patients with perio awareness. Five fully equipped operatories, 3 X-ray units. Attractive price. Available immediately. Write or phone: Margaret, 2 Lenclos Road, St. Ann's Avenue, Port of Spain, Trinidad, West Indies (809) 627-5008.

ASSOCIATESHIP AVAILABLE

BRITISH COLUMBIA: Associateship leading to purchase. Well established Pedodontic Practice, 1500 square foot, 7 chair, downtown office on the north side of a superbly located building. Location was selected because of excellent view of mountains and ocean. Inquiries: Dr. G.M. Jinks, DDS, FRCD, 301-1701 W. Broadway, VANCOUVER, B.C., V6J 1Y3, phone – (604) 731-4608 Mon. - Thurs.

BRITISH COLUMBIA–Cresta Dental Centres: Excellent associateship or practice purchase opportunities available immediately. VICTORIA – Retail dental centre established in high residential area. New patients average 100 per month. Modern 6 operatory clinic with refreshing and inviting decor. Computerized. Very high gross. Ideal for 2 dentists or 1 exceptionally high producer. Maximum potential is still to be achieved, 10 year lease. PRINCE GEORGE – Retail dental centre in largest shopping mall in Central British Columbia. High new patient flow well run recall system with efficient and effective management. High gross; approximately 80% insurance; 10 year lease. Office decor modern and inviting, new equipment. Phone: (604) 382-7603 or (604) 381-6433.

BRITISH COLUMBIA: Associateship Available – Associate required immediately in busy general quality practice in Lillooet, B.C. by the Fraser river. This is an excellent opportunity for the right individual in a pleasant, enjoyable environment for full or part time at a generous percentage split. Enthusiastic, quality conscious individuals are asked to contact: Dr. Barry Goldberg or Rita McDonald at Box 188, Lillooet, B.C. V0K 1V0 (phone) (604) 256-4616.

BRITISH COLUMBIA–ASSOCIATESHIP AVAILABLE & HYGIENIST REQUIRED in Prince George, B.C. as part of busy well established practice – full patient load immediately. High annual gross. Great outdoor recreation opportunities. Contact: Dr. D. Kjorven, #201 – 1531 8th Ave., Prince George, B.C. V2L 3R3, 604-564-7337 (office), 562-6834 (home).

ALBERTA: Associateship or salaried position. Best opportunity in the country – Medicine Hat, Alberta – to join modern group dental clinic with 3 doctors and 3 hygienists. Latest equipment. Available immediately. Flexible hours. Phone Dr. Cliff Hrankowski (403) 526-8694 or Dr. Elwin Kershaw (403) 526-0772 (Office: (403) 526-0777).

ALBERTA: Associate wanted for full-scope active oral and maxillofacial surgery practice in Calgary, Alberta. Candidate must be trained in all aspects of the specialty and eligible for specialty licensure in the province of Alberta. Please send CV and picture to CDA Box no. 2371.

ALBERTA–Edmonton: ASSOCIATE WANTED – In well-established extended-hour practice, with opportunity for purchase in future. Excellent opportunity for an ambitious quality-oriented practitioner. Reply to CDA Box 2369.

ALBERTA–Edmonton: High gross practice requires associate. Partner is leaving city. The office is fully equipped and very cheerful with extensive large windows. Contact Dr. Azarko at 14938 Stony Plain Rd. (403) 483-7080.

SOUTHERN ALBERTA: I need an associate to share the work load, which is more than I can handle, for the practice to continue growing, with a view to partnership. Call (403) 553-4782 after 6 p.m.

SASKATCHEWAN–Saskatoon: ASSOCIATED WANTED to share space in a four operatory family dental practice. Contact Dr. U. Joel Kerry: (O) (306) 374-8737 or (H) (306) 955-4398.

ONTARIO–Ottawa: Associate/Partnership: Associate required for a busy, quality-oriented family practice. Possibility of future partnership. Contact Dr. Dorothy Marko (613) 225-9201 days, (613) 836-6027 evenings.

ONTARIO: ASSOCIATE wanted for Oral and Maxillofacial surgery practice in Ottawa. Candidate should be certified as specialist in Ontario or should be eligible for specialty certification. Send Résumé to Box 2360.

ONTARIO—Thornhill: Associates required to join fast growing preventive group practice. Our office is closely associated with a large medical facility whereby total patient care is available. Long term arrangement or view to partnership. Please call: Dr. Larry Lerner (416) 881-5225 (B) or (416) 731-5508 (H).

ONTARIO—West End Ottawa: Established general practice in professional medical dental building requires associate to replace same who is leaving the city. Position available immediately. Ideal for ambitious and/or experienced individual. Contact Dr. R.I. Carpenter (613) 596-1272.

ONTARIO—Associate Opportunity – Ambitious full or part-time associate wanted for a well established, growing, high quality, family preventive practice. Located in a beautiful year round recreational atmosphere of southern Georgian Bay. Fabulous boating, fishing, hunting, golf, and skiing available. Modern, bilingual, open concept four operatory quality facility, with full-time hygienist. Progressive relaxed atmosphere offers unique and excellent opportunity for a young conscientious dynamic, energetic graduate to practice all branches of dentistry with an enthusiastic and talented staff. Hospital privileges are available. Exceptional caring dentist as an associate, with a view to full partnership wanted. Solid professional environment along with encouraged continuing education will allow you to maximize your potential in dentistry and will provide you with an exciting and rewarding experience. Call Collect: David P. Scanlon. Days – (705) 549-3355. Evenings – (705) 526-5550.

ONTARIO—Windsor: The opportunity exists for an associate to join a progressive practice located in a highly accessible mall. We provide a full range of general dental services with emphasis on prevention. There are four fully equipped state-of-the-art operatories with room for further expansion. Associate required for rapidly growing new patient volume. Early buy-in potential for the appropriate candidate. Reply in confidence to CDA Box 2377.

QUÉBEC—Brossard (15 minutes from downtown Montreal): Bilingual associate for a ten year old practice located in a major commercial centre. Suburb is rapidly expanding and has a young cosmopolitan population of professional and entrepreneurial class. Telephone (514) 465-9100.

OPPORTUNITIES AVAILABLE

BRITISH COLUMBIA—Victoria: *TWO OPENINGS FOR FULL-TIME DENTAL HYGIENIST* Victoria's oldest established group practice is seeking two enthusiastic, energetic hygienists for immediate employ. Please phone Vonna (604) 478-3412.

SASKATCHEWAN—Leader: Dentist required immediately. Complete dental facility – fully equipped – for sale or rent in a community of approximately 1200 with all amenities. Service are of 6500 – 8000 population. Contact K. Schmaltz (306) 628-3255 or J. Toye (306) 628-3868.

ONTARIO: Positions available immediately for Ontario certified Pedodontist and Orthodontist in busy North Toronto practice. Excellent in-house referral. Apply in confidence to CDA Box no. 2370.

ONTARIO—Toronto: Fully equipped dental office (3 operatories) to share – Yonge and Eglinton in Toronto. Phone (416) 487-3161. Reasonable.

IRELAND: Unique opportunity for Irish Dentist who has his money made and wishes to return home, to acquire a quality leasehold practice in a large provincial town, an hour from Dublin, where job-satisfying all-round Dentistry is expected and rewarded, and one can enjoy the priceless feeling of 'being at home'. CDA Box 2375.

EQUIPMENT

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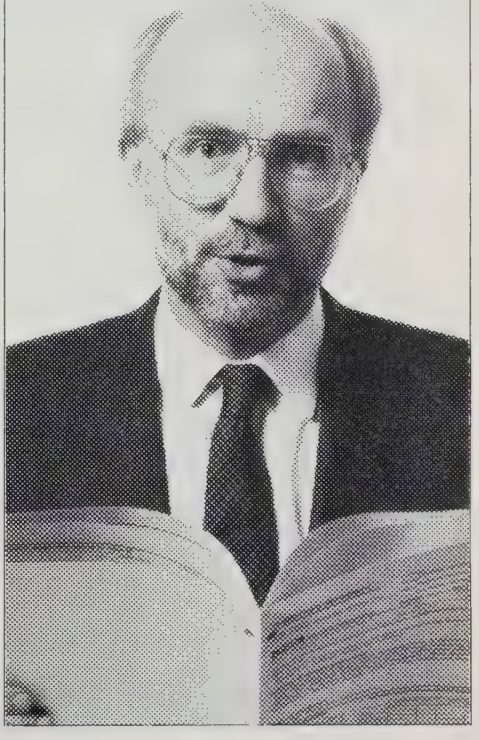

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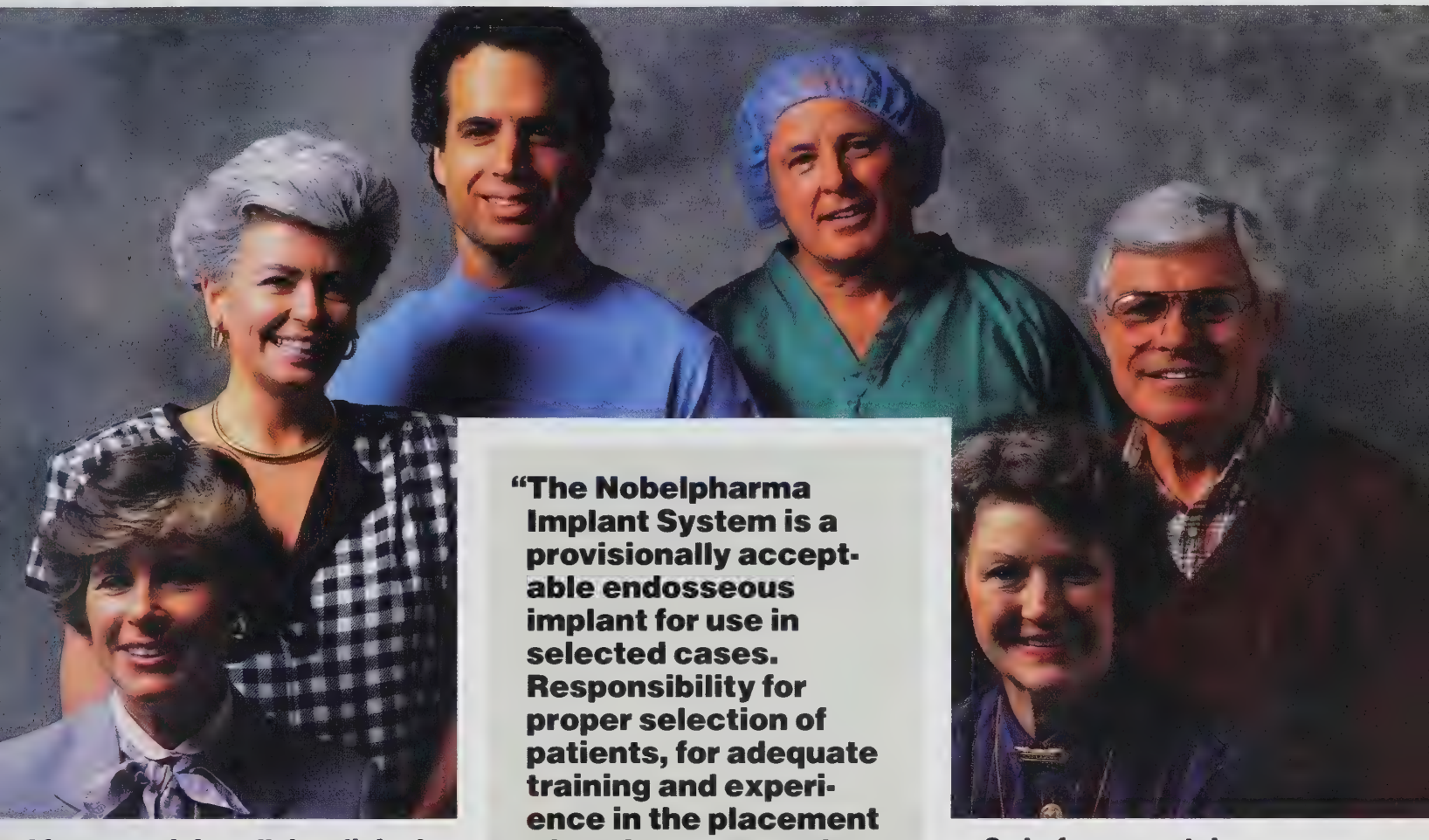

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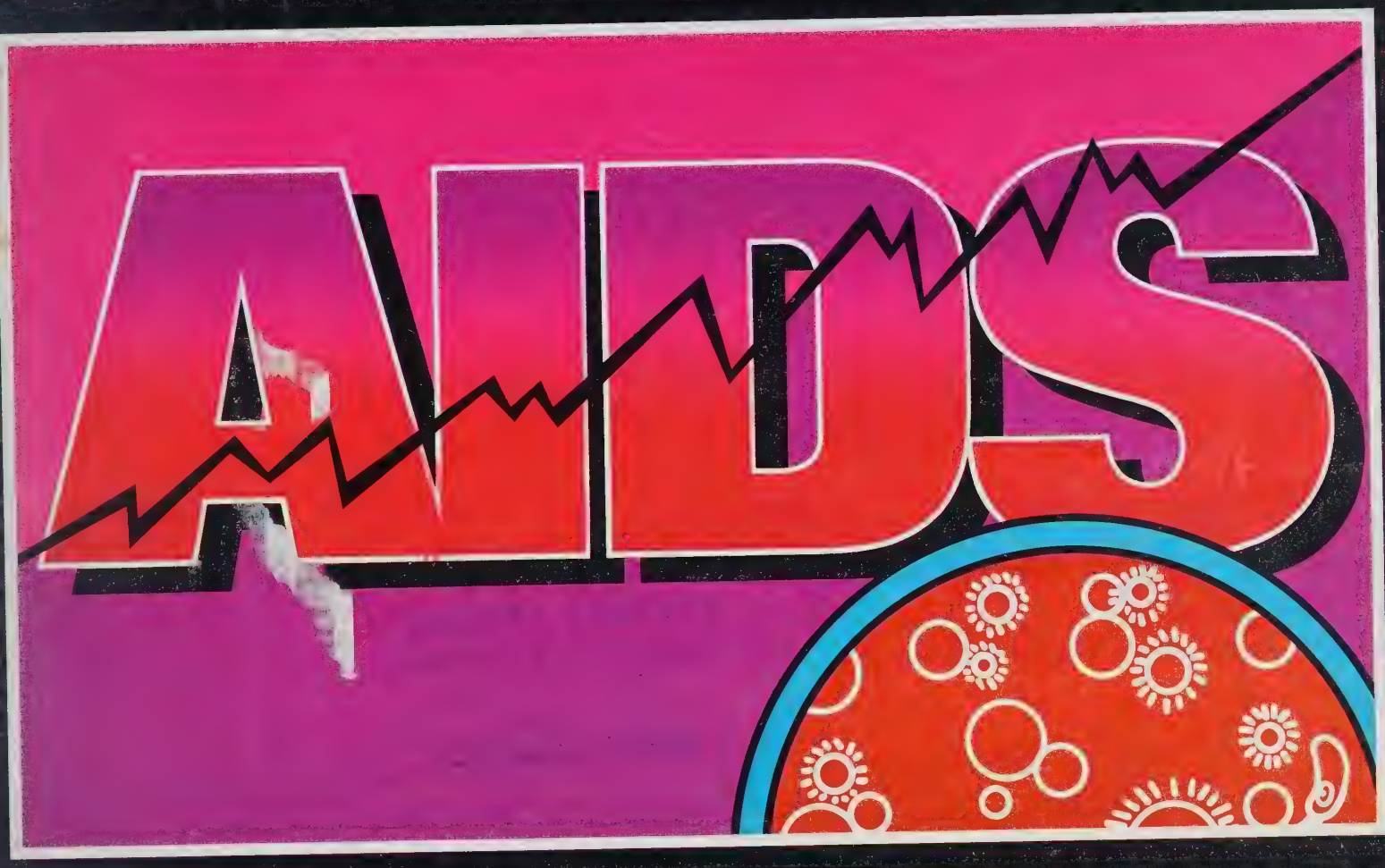

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PROTECTION AND PREVENTION

Since its recognition in 1981, the Acquired Immunodeficiency Syndrome has spawned considerable basic research, numerous clinical studies, public and professional education, and much controversy. This energy has been stimulated in part by the uncertainty, fear, and ignorance which envelopes this syndrome, but also by the exciting challenges accompanying the investigation, prevention, and treatment of a new disease.

Apart from the discovery of the causative agent (human immunodeficiency virus, HIV), a significant development is the realization that there exists a pool of healthy but infected individuals, who do not know that they are infected, but who are capable of transmitting the virus. Current estimates suggest that between 50,000 – 100,000 Canadians constitute this reservoir of HIV infected individuals. In contrast, this country has recorded approximately 1,200 dead or dying AIDS patients, who in fact represent the terminal phase of an HIV infection. It is believed that the HIV infected but healthy individual is more capable of transmitting the disease than the terminally ill AIDS patient. The appreciation of these facts and figures is having a profound effect upon the health care professions, specifically their attitude to infection control.

The Canadian Federal Centre for AIDS has endorsed recent recommendations from the U.S.A. Centers for Disease Control regarding the prevention of HIV transmission among health care workers. This document categorically states that all blood, saliva and gingival fluid from all patients must be deemed potentially infectious. Also included are precise infection control procedures to be adopted by all dental health care workers when performing any intra-oral procedure. These relatively stringent recommendations may have a dramatic effect upon the practice of dentistry.

Provincial licensing bodies may have to devise protocols to ensure the public that effective infection control mechanisms are being adopted by our profession. Provincial dental associations may have to develop continuing education courses which will instruct members how to operate effectively and efficiently while respecting current infection control guidelines. Insurance companies may wish to review the experiences of dentists claiming disability insurance since a new recommendation is that dentists should not practice, even with gloves, if they have cutaneous wounds or weeping sores on their hands or fingers.

AIDS has had and will continue to have an unsettling effect upon many lifestyles, occupations, and professions. Dentistry is no exception. The Canadian Dental Association is arranging to distribute to every dentist a copy of "Recommendations for Prevention of HIV Transmission in Health Care Settings". These recommendations, if practiced, are designed to prevent the transmission of HIV and numerous infectious diseases such as hepatitis B, herpes, and T.B. They have been prepared for our protection and the safety of our families, staff, and patients. It would be foolish to ignore them.

John Hardie, BDS, MSc, FRCD(C)
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Dr. Gordon Jessamine
AIDS CENTRE COORDINATOR GRANTS EXCLUSIVE INTERVIEW

Dr. Gordon Jessamine, currently Coordinator of Health Services, Federal Centre for AIDS, Health and Welfare Canada, recently granted an exclusive interview to this Journal to inform the dental profession of Canada of the latest findings about the epidemiology of AIDS and its significance in the dental setting.

He was interviewed by Dr. John Hardie, an oral pathologist, who is Chief of Dentistry, Ottawa Civic Hospital, and a member of Health and Welfare Canada's National Advisory Committee – AIDS (NAC-AIDS).

Dr. Hardie is also Chairman of CDA's Publications Committee.

Dr. Jessamine, a graduate in Medicine, University of Aberdeen, Scotland, came to Canada in 1952, and for 25 years was engaged in the clinical and public health aspects of tuberculosis.

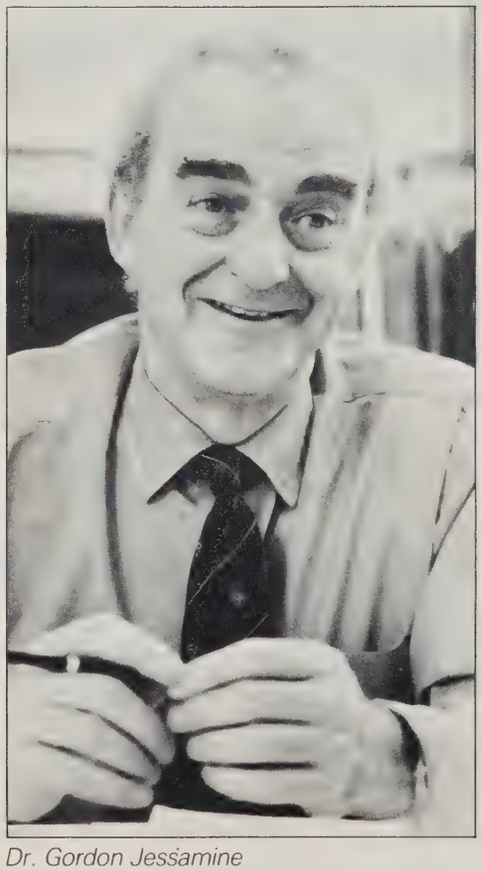
In 1975, he joined the Laboratory Centre for Disease Control and has been involved in the epidemiology of AIDS since late in 1981. The text of the interview follows.

Dr. Hardie: The Laboratory Centre for Disease Control has been an integral aspect of Canada's health care system for many years. Please tell us why a new organization, the Federal Centre for AIDS has been formed? What are its goals and objectives?

Dr. Jessamine: Obviously AIDS is a sexually transmitted disease and initially it was handled by the Division of the Laboratory Centre for Disease Control responsible for sexually transmitted diseases. As the AIDS problem increased, a special unit was formed to deal with requests from the Department of Health, and inquiries from the public and the media. Recently the Federal Centre for AIDS was formed to unite laboratory investigations with health profession and public programs. This amalgamation will foster essential collaboration on numerous projects.

Dr. Hardie: What is your specific role?

Dr. Jessamine: Currently, I am working as the Coordinator of Health Services. I deal with professional education and training and have a minor input into public education and to epidemiologic aspects of AIDS in Canada.



Dr. Gordon Jessamine

Dr. Hardie: It has been established that the acquired immunodeficiency syndrome is caused by the human immunodeficiency virus, HIV, but there exists some confusion as to the difference between an HIV-infected person and an AIDS patient. Would you please explain these two states.

Dr. Jessamine: This may best be described by discussing three stages associated with the disease, with AIDS being the end point of infection with HIV. In the first stage or "asymptomatic HIV infection", the individual becomes infected and may exhibit a slight, transient flu-like illness after which the patient regains normal robust health. With a passage of time – months or years – he or she may develop symptoms such as excessive fatigue, night sweats, rapid weight loss. These relatively non-specific symptoms could herald the progression into the second stage termed "symptomatic HIV" infection. With the passage of more time, months or years, the HIV infected individual may develop what are called "marker diseases" for AIDS. These are associated with the third stage of the infection "AIDS".

Dr. Hardie: Is it correct, Dr. Jessamine, to depict the HIV infection as a triangle with the base representing HIV asymptomatic health individuals and the apex of the triangle representing those patients who will ultimately end up with the terminal aspect of the infection – AIDS?

Dr. Jessamine: That is the correct way to describe it.

Dr. Hardie: May we assume that an asymptomatic otherwise healthy person with an HIV infection does not have AIDS?

Dr. Jessamine: Correct.

Dr. Hardie: What are the risks of someone who is healthy, but has an HIV infection, developing AIDS?

Dr. Jessamine: This risk varies. There is difficulty in actually forecasting what exactly the risk is in the short time that we have known some of the natural history of AIDS. It was first reported in 1981. So the disease has only been studied for six or seven years. The most recent figures however indicate that up to 36 per cent of people have gone from asymptomatic HIV infection to AIDS over a six to seven year period. It is impossible to forecast what is going to happen when these infected people survive for eight, nine or ten years. Many people predict the percentage will increase, say to 50 per cent, possibly 60 per cent and some even feel that it may eventually reach 100 per cent. This is something we still have to wait for.

Dr. Hardie: It is important that health care workers appreciate that HIV infected but healthy individuals constitute a reservoir of potential infection. Can you give us any estimate of the number of such HIV infected but otherwise healthy people in Canada at the present time?

Dr. Jessamine: In Canada at the present time that is an impossible number to determine. Based on studies done in the United States, some say that for every case of AIDS in the community, there are at least 50 and possibly as many as 100 people who have been infected. We don't know the level of infection in the general population; it may be 50,000 – 100,000. But you are quite right when you say that many of these people are healthy, but infected and probably infectious to others. I think this is the most important thing that we have to keep in mind is that these healthy asymptomatic people are infectious to others.

Dr. Hardie: You are implying that if the spread could be stopped tomorrow, there would be thousands of Canadians who would develop AIDS because of the pool currently infected?

Dr. Jessamine: That is correct. No one really is prepared to forecast beyond five years. But the people who are going to contract and develop AIDS in the next five years are already infected. Presently there is no cure one can offer these people. Some of the new drug trials now under way may offer some relief but we don't know what the long term effect of these drugs will be.

Dr. Hardie: Some health care workers have labelled the HIV as a super virus able to defy all of the accepted normal paths of infectious diseases. Is this virus not similar to all infectious agents by requiring a critical mass to cause infection, a suitable portal of entry and a suitable host?

Dr. Jessamine: Most certainly. There is no doubt that the virus acts in the same way as any other virus or bacterium and has to follow a particular pattern. This is why HIV has been identified as more frequently transmitted during sexual intercourse. This is the primary transmission in practically every case. Indeed one can go further and find people infected by percutaneus transmission – such as sharing needles for intravenous drug abuse – but these people were probably infected by individuals initially infected during sexual transmission. The other point you make is also correct. Although there is no evidence to prove it, I doubt if one single human immunodeficiency virus would ever cause infection if it was introduced into the body.

Dr. Hardie: Well, does what you're saying mean that a healthy individual with an intact immune system would probably not develop an HIV infection if exposed to a sub-optimal dose of the virus.

Dr. Jessamine: That is correct. There are other viruses for which the critical mass or innoculum is much smaller than for the HIV.

Dr. Hardie: Would our hypothetical individual, who is exposed to a sub-optimal dose, who is otherwise healthy with a good immune system, develop antibodies if exposed to the HIV?

Dr. Jessamine: Some may, some may not. Some may develop antibodies at such a low level as not to be detectable by laboratory tests. I'm not aware of reports from this type of exposure or this type of infection and I think you would agree it would be difficult to estimate the actual dose of the virus transmitted to a single individual.

Dr. Hardie: This is an appropriate time for you to explain to us the significance of an HIV antibody test.

Dr. Jessamine: The HIV antibody test is a test for evidence of HIV infection. It is not a test for AIDS. The test will show if an individual has been infected with HIV but it does not indicate at what time or when that infection took place. It does not tell if an individual is going to become sick or if he/she is going to develop AIDS. We know it takes time for the test to become positive. After infection, it takes from six to twelve weeks for the development of a significant antibody so that the laboratory test will show as positive. There is therefore a "window" in which an infected individual if tested too early will have a negative test but will still be infectious. If that person has not engaged in recent risk activity, there may be a need to repeat the test probably in three months time. At that point we would anticipate it to be positive.

Dr. Hardie: Obviously, it would help considerably if laboratory tests were able not only to detect the presence of an antibody, but also were able to detect the presence of the virus. While this can be done in research laboratories, is there any indication that this will become commercially available in the near future?

Dr. Jessamine: Yes, there is continuing development and improvement not only of better antibody tests but also of the development of new tests which will detect a virus or the viral antigen. One point I should have mentioned when we were talking about the antibody test is that the test does not really indicate that an individual is infectious to others. However, research has shown that a high percentage of people with a positive antibody test are carriers of the virus and therefore probably are infectious to others.

Dr. Hardie: So, once this virus test becomes available, will it be used as the main marker of an individual's ability to infect others?

Dr. Jessamine: Most certainly. That is how it should be used. I think it will depend on how much that particular test costs. Obviously if you have reliable information which shows a high percentage of people with positive antibody tests also have positive virus or antigen tests, then it is unlikely that you would use the virus test if it is very expensive. Cost effectiveness and cost benefit have to be considered.

Dr. Hardie: To date we have discussed the course of the disease, some of the associated statistics and some of the clinical testing. Would you now explain the methods by which the virus is transmitted?

Dr. Jessamine: Primarily, this is a sexually transmitted virus. It is most easily transmitted from one individual to another by the exchange of body fluids, especially the exchange of body fluids with a high concen-

tration of white blood cells. High levels of concentration of the virus are found in blood, in sperm and in vaginal secretions.

Transmission is then mainly from person to person especially during sexual intercourse. The second method is by blood borne infection where blood is the vehicle. The blood itself is contaminated as in blood transfusions or in contaminated blood from equipment used for injections. So we have sexual transmission, blood borne transmission and unfortunately an infected woman if she becomes pregnant can transmit the infection to her baby. This is called vertical transmission. These are the three main methods.

Dr. Hardie: The latest recommendations from the Centers for Disease Control in the United States suggest that blood, gingival fluid and saliva from all patients should be considered potentially infectious. We have been informed that saliva contains less than the critical concentration of the HIV, why then is saliva considered an infectious fluid?

Dr. Jessamine: Simply because the virus has been recovered from saliva. At the same time I agree with you that if present it will only be there in low concentration. But I think that one must err on the side of complete safety. When there is a virus in any body fluid whether identified or not, a theorical risk of infection exists. If one does not take appropriate measures, then it becomes a serious matter whenever one person gets infected. In fact, one infected person is one too many. We tell people that the risk is low, very, very low, but just in case some unfortunate accident happens, we recommend that they take precautions and protect themselves accordingly. The other aspect is, and I am sure that you are much more aware than me, that there are many oral and gingival infections which can be transmitted in the same way. Some of these are much more infectious than HIV and have serious consequences.

Dr. Hardie: There have been concerns raised associated with saliva being potentially infectious, particularly in individuals who might be asked to do CPR. They are being informed on the one hand that it is not infectious and on the other hand they are aware of the new recommendations which suggest it is. Is it fair to say that the chance of someone contracting an HIV infection from one or two instances of saliva contamination is perhaps negligible, whereas a health care worker, such as a dentist, who is exposed to saliva seven hours a day for five days a week, is obviously increasing the risk of being exposed to the AIDS virus?

Dr. Jessamine: Oh, yes. I agree. The factors of frequency and duration of exposure become very important. Let me make a comment on a somewhat similar problem. I doubt if any individual who shares needles during intravenous drug abuse gets infected from one small exposure of blood by needle sharing. I believe that this is a continuing process where people continue to share needles and are exposed to frequent low levels of infection. This could be the situation with the dental profession if they were exposed frequently to small quantities of saliva which might contain the virus.

Dr. Hardie: Does the fact that dentists are being told to treat all fluids such as blood, saliva and gingival fluids as potentially infectious mean that they could acquire an HIV infection via cuts, sores or open lesions that they might have on their hands or fingers?

Dr. Jessamine: Most certainly. There have been three instances of health care workers in the United States becoming infected. These people did not have penetrating injuries but had splashes on areas such as chapped hands or acne. It is believed that these may have been the portals of entry. Certainly, anybody who is involved in dental procedures and has even a small area of non intact skin on their hands is at risk for an infection if they do not take preventive measures.

Dr. Hardie: I believe, Dr. Jessamine, that there has already been a dentist in the United States identified as acquiring an HIV infection via his professional activities.

Dr. Jessamine: So I understand. Yes.

Dr. Hardie: Is it your belief that the transmission to this dentist could have been avoided had he worn gloves?

Dr. Jessamine: Yes. I would feel that every dentist operating on any patient should wear gloves, simply because he does not know what that individual's infectious status might be.

Dr. Hardie: A small survey of my colleagues indicates that many of them are reluctant to treat HIV infected and AIDS patients in their offices because of the potential for transmission. What specific instructions would you offer then to ensure that the virus is not transmitted in the dental environment from patient to dentist, from dentist to patient, or from patient to patient?

Dr. Jessamine: From the point of view of protecting dental staff, gloves and eye coverings really become mandatory. As far as transmission from dental staff to patient is concerned, I find it very difficult to visualize. I doubt if any dentist would continue to operate under any conditions where he had sores or open cuts on his hands which were oozing serum. The third possible method of transmission is by the use of infected instruments. After each procedure in a dental office, the instrument should be cleaned of any blood or saliva adhering to it and then be sterilized in an appropriate manner before being used on the next patient.

Dr. Hardie: Do you believe that if these precautions were adopted, there would be no risk of the virus being spread within the dental office?

Dr. Jessamine: There would be no risk. Recommended methods of disinfection and sterilization are such that viruses find it difficult to survive outside their normal supporting environments. HIV can be easily neutralized by plain soap and hot water, by various germicides, by various disinfectants, and, of course, by heat.

Dr. Hardie: Your recommendation then, Dr. Jessamine, would be that all dentists should always use the recommended barrier techniques and the accepted disinfectant and sterility procedures for all instruments that come in contact with either blood, saliva, gingival fluid, or indeed the oral mucous membranes.

Dr. Jessamine: Yes indeed, very positively.

Dr. Hardie: Now you have stated that the AIDS virus is relatively fragile and possibly can not live outside the body fluids for any length of time. Does it not therefore appear that the precautions that we're taking to prevent the transmission may in fact be too strict and completely unnecessary?

Dr. Jessamine: They may appear to be, but we are not really quite sure that HIV will not live outside the body. There are studies which show that in moist preparations the virus can be recovered up to at least ten days in room temperature exposure but it does not grow at the same rate. However, because of the fatal outcome, it is necessary that one takes stringent precautions in every instance. They are fairly simple, straightforward precautions, but I think that they could be very, very, worthwhile.

Dr. Hardie: Presumably, another reason why these precautions should be taken is that, at the present time, many of these individuals in the higher risk status for acquiring AIDS may also have been exposed to hepatitis B, herpes and other sexually transmitted diseases against which precautions should be taken.

Dr. Jessamine: Most certainly, especially when so many of these are much more infectious and have a greater blood titre than the HIV.

Dr. Hardie: So what you are in fact saying, Dr. Jessamine, is that while the current recommendations for the prevention of HIV infection among health care workers have been designed specifically to avoid transmission of the AIDS virus, these recommendations are applicable to good infection control in the prevention of the transmission of many diseases.

Dr. Jessamine: Exactly. I think you have summed it up very very well.

Dr. Hardie: Thank you. Your office receives many inquiries from health care workers and the public. Could you please tell us what are the major concerns regarding AIDS which have been expressed by first of all health care workers, especially dental health care workers, and secondly concerns expressed by the public, especially dental patients.

Dr. Jessamine: We reassure them that if the dentist is taking the appropriate sterilization and cleaning procedures, there is no risk.

People have also asked us about the possibility of being infected from the dentist or his staff. Again we have pointed out that where those precautions are taken and where scratches and wounds on the hands are kept covered and gloves are worn, the risk again is practically zero. Most of the questions and concerns originate from the presence of HIV in saliva. We continue to explain that the concentration of HIV in saliva is low, that it requires a lot of virus to become infected and that in the dental situation, the risk of infection is very small.

Dr. Hardie: You have stressed the fact that a potential risk of transmission could exist from the dentist to the patient if the dentist had open wounds on his hands or fingers. Would it therefore be your recommendation that any dental health care worker who has a dermatological infection of the skin, hands or fingers avoid practising, even if wearing gloves, until those lesions have healed?

Dr. Jessamine: Yes. I would. Especially if these lesions were weeping, where serum might exude from the raw surface. I doubt if any dentist would wish to practice under such conditions but would prefer to wait for such lesions to heal before resuming dental activities.

Dr. Hardie: If a dentist cuts a finger while working on a known HIV or AIDS patient, what immediate steps should be taken?

Dr. Jessamine: The immediate step is to take off the gloves, wash the hands well with hot soapy water and encourage bleeding from the cut. A simple dressing applied over the cut will be sufficient to control bleeding, and a new clean pair of gloves should be put on. Then he should return to the work at hand. That day or the next day, he should consult his physician and I would certainly recommend that an antibody test should be done at that time to obtain a baseline HIV level. Other serological tests should be done at the same time, i.e. for hepatitis. The antibody test should be repeated in another six weeks time and possibly three months after that. During this period the dentist should report to his physician if he develops any symptoms. This process of medical consultation should continue for six or even twelve months. The Federal Centre for AIDS is currently conducting a study among health care workers who have been exposed to the blood or body fluids of infected patients. I am unaware of any dentists being followed in this matter but should any wish to join this particular study we would be very interested in hearing from them.

Dr. Hardie: We have discussed at the very beginning of our interview the fact that there is a pool of HIV infected individuals who don't know that they are infected, does this imply that dental health care workers should adopt those procedures every time they cut their finger or suffer a similar occupational injury?

Dr. Jessamine: Before adopting the procedures, it is necessary to know the infectious state of the patient. This involves a knowledge of the patient's sexual activity, number of partners, preferences, and history of sexual diseases, all of which may provide clues as to the HIV infectious status of the patient. A patient may refuse to divulge such information to a dentist. But I don't think that I could really recommend jumping to the conclusion that everyone who sits in the dental chair is infected with HIV. In Canada, at this time, the level of HIV infection is low but varies from region to region. Nevertheless, the question is an important one which demands some specific guidelines.

Dr. Hardie: Suppose a dentist is suspicious that a patient might have an HIV infection. This suspicion might be because of oral signs and symptoms, because of the patient's divulging information through a health history, or because the dentist is suspicious of the patient's lifestyle. Should the patient be referred by the dentist to the patient's physician for follow-up and should the patient be informed why the referral is taking place?

Dr. Jessamine: I think this depends on the dentist's assessment of the patient. Obviously there is a need for the closest of cooperation between dentist and physician. Should the patient be told that medical consultation is necessary and that the physician and dentist will collaborate in treatment?. This could be one approach. Certainly this would refer the patient to the physician, get the appropriate studies done and consultation between dentist and physician could be arranged. Unless the dentist knows his patient very well, I'm not sure that he should convey his suspicions to the patient. Definitely, the dentist's judgement of the patient, of the infection, of the patient's awareness of the problem, how it might have occurred and the patient's reaction to being informed by the dentist, rather than by the physician, will provide the best guidance as to how the dentist should act in this situation.

Dr. Hardie: As far as you are concerned, is education the best way to allay the fears and concerns of the public and health professionals?

Dr. Jessamine: Most certainly. The main tool that we have today is to advise people, to educate people. However no matter how well you attempt to educate people or how successful you are, there are still many who refuse to be completely educated or to believe what you are telling them. We must emphasize that we continue to provide the best possible answers available to us.

Dr. Hardie: Along similar lines, would your office welcome telephone calls or letters from individual dentists who might be expressing some concerns?

Dr. Jessamine: Most certainly. In a cooperative fashion the Federal Centre for AIDS and the Canadian Dental Association could respond to these questions.

Dr. Hardie: Finally, do you have any particular comments that you would like to make to us which would be of some assistance to dentists and dental health care workers?

Dr. Jessamine: Last words are always difficult to provide. I believe that dentists and physicians recognize that this is an infection which is here to stay and for which there is no immediate answer. Dentists are going to see HIV related oral infections with increasing frequency in the years to come and should be aware of how to handle such conditions. Considerable progress has been made in the scientific aspect of HIV infection and AIDS in a relatively short period of time. More of these advances will come. We have to maintain our professional level of education to ensure that we are all completely familiar with the infection.

The Canadian Dental Association and this Journal are indebted to **Dr. Jessamine's** courtesy, in the midst of a busy schedule to grant this interview and provide the latest information on this subject of vital concern to all Canadian dentists.

DR. R.J. MARKEY INSTALLED AS CDA PRESIDENT

Dr. John Robertson, right, extends himself almost beyond the (reach) of duty as he places the presidential chain of office around Dr. Markey's neck.

CDA Executive Director A. Jardine Neilson, left and his wife Merilyn, congratulated President Dr. Ron Markey and his wife Diane, and posed for our photographer.

Dr. Markey's family surprised him by travelling to Ottawa to congratulate him on his installation as CDA President. They are, left to right: Tom Markey (father), Colleen Norrish (sister), Scott Markey (son), Diane (wife), Dr. Markey, "Kitty" (mother), Sean (son), and Bill Norrish (brother-in-law).

Dr. Markey (left) presents a winter scene to Past President Bradley Holmes in the interests of enhancing his skiing technique.

Dr. Bradley Holmes so overcome during the proceedings that he fell off his chair.

"There is no reason why the Canadian Dental Association shouldn't be a leader on the national health scene," Dr. R.J. Markey of Vancouver said in his inaugural remarks after being installed as the 68th President of the CDA during the 1987 annual meeting of the Board of Governors.

"The CDA has a good record in prevention and has become much more health oriented in recent years. It is important that we take a stand as a national health organization," he continued.

Speaking on politics within the CDA, he noted that there has been a skeptical attitude as there is in other sectors of Canadian society. But, he said, "politics should not be a dirty word. It should be the art of the possible."

The complexity of some dental issues makes it difficult to arrive at a concensus Dr. Markey observed, "but once decisions are made, – the majority rules. All factions must then pull together to enable us to go forward."

He believes Canadian dentists "should be proud of their profession and be prepared to defend and enhance their professionalism."

Dr. Markey indicated he dislikes the terminology "providers in the national health industry. We are much more than that," he said.

"If everyone involved tried to protect this professionalism, we could avoid some of the problems that we often face. This professionalism results in quality care. It makes what we do worth while."

Dr. Markey prefaced his remarks by paying tribute to his mentors at McGill University's Faculty of Dentistry during his undergraduate years, singling out, in particular, Drs. Kenneth Bentley and Ernest Ambrose.

Following an introduction in fluent French, he gave credit to the fluency of his parents.

Installed by Dr. Robertson

Dr. Markey was installed into the CDA presidency by the immediate Past-President, Dr. John R. Robertson.

Dr. Markey, in turn, presented Dr. Robertson with the Past-President's pin.

He also presented Past-President Dr. Bradley Holmes with a frame winter scene in the interests of making Dr. Holmes a more polished skiier.

Dr. Robertson also made a presentation to Dr. Holmes on the occasion of his departure from executive ranks of the CDA.

Dr. Robertson 'Roasted'

CDA's Executive Director, A. Jardine Neilson, conducted a "roast" of Dr. Robert-

This fetching (?) apparition entranced the audience as "she" danced with a somewhat overstuffed partner.

son's term in the presidency, poking fun at Dr. Robertson's alleged difficulty expressing himself in good grammatical form.

CDA Journal Associate Editor, Clarence Metcalfe, presented a volume of the 'President's Columns' published in the Journal during Dr. Robertson's term as President.

B.C. Entertainment

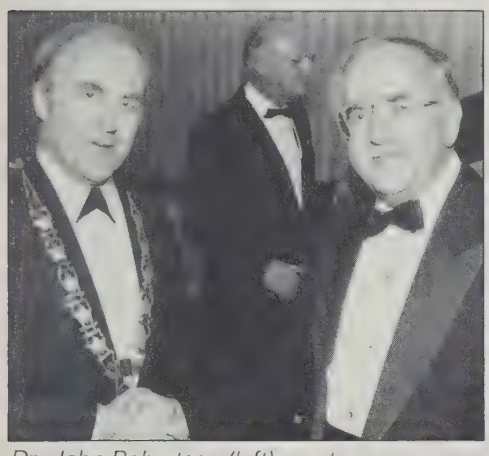
Following the formal installation dinner program, decorum was banished.

CDA officials, wives and guests were treated to a group of formally-attired strutters, complete with canes – the "West Coast Happy Hoofers." Participating were: Dr. Bob Hicks, a CDA Past-President, Dr. Roy Thordarson, Executive Director of the B.C. College of Dental Surgeons, Dr. Perry Trester, Vice President of the B.C. College, Dr. Ron Smith, B.C. College President, and Dr. Serge Vanry, a B.C. College Past-President.

Dr. Brian Rocky, Registrar of the B.C. College, and MC for the entertainment program, conducted a commentary of somewhat irreverent remarks during the showing of slides of Dr. Markey's early years, his sports abilities, and his sartorial splendor.

A surprise arrival on the scene was a somewhat dowdy "female" bearing a striking family resemblance to Dr. Don MacFarlane, who danced with an overstuffed character, to the delight of the audience.

The finale was a movie featuring a Rambo-like dentist who struck terror into his patients while describing his ruthless philosophy of dentistry.



Dr. John Robertson (left) greets new Executive Council member Dr. Ray Wenn on the receiving line at the Installation Dinner.

Dr. John Robertson (left) greets Dr. Michel Jahjah, new General Chairman of the Canadian Dental Association Convention, in the receiving line at the Installation Dinner.

A high-stepping troupe from British Columbia (some with remarkably familiar faces) entertained an appreciative audience following Dr. Markey's installation.

FDI AND WHO COLLABORATING ON AIDS PROGRAM

The Fédération Dentaire Internationale (FDI), the World Health Organization's Special Program on AIDS and the Oral Health Program of the World Health Organization are collaborating to mobilize world dentistry to play an active role in efforts to control and prevent AIDS and related conditions.

The following statement was recently issued regarding the Acquired Immunodeficiency Syndrome (AIDS) and was prepared by Drs. J.J. Pindborg and F. Scheutz in collaboration with the WHO's Special Programme on AIDS and the Oral Health Programme.

Dentists' Professional and Ethical Responsibilities for HIV-Positive Patients and Patients with AIDS

There has hardly ever been a disease, which has received such wide-spread interest from the mass media as the acquired immunodeficiency syndrome (AIDS). Several explanations may account for this phenomenon, one of which is the alarming increase in the number of persons infected with the human immunodeficiency virus (HIV) and the number of AIDS patients. The number of HIV-infected and diseased persons will continue to rise and is certain to be substantial in the future[1]. As of 1 April 1987, 45,700 AIDS cases were reported to WHO's Special Programme on AIDS from 102 countries throughout the world. AIDS and HIV infection are now pandemic, and constitute a priority public health problem of global importance.

Dentists all over the world will therefore have to prepare themselves for delivery of oral health care to HIV infected patients. Consequently, it is relevant to ask what professional and ethical responsibilities do dentists have with regard to these patients? The World Health Organization recommends that dentists participate actively in the global and national AIDS prevention and control programmes. The oral health section of this programme may be summarized as follows:

- *Examination of the oral cavity for detection and diagnosis of those oral manifestations often seen in AIDS-patients and HIV-positive individuals[4-7]. When possible, patients should be referred to an oral medicine unit for further diagnosis, if the findings suggest an underlying immunodeficiency.*
- *Providing ordinary oral health care to HIV-positive individuals. Treatment of oral mucosal lesions may preferably take place in dental departments of hospitals or at dental colleges.*
- *Upgrading of the oral health team's knowledge with regard to infectious diseases, their transmission, and the necessary hygienic procedures for infection control when providing oral health care.*
- *Education of dental clients regarding HIV transmission and its prevention.*

Dentists are trained to examine and diagnose pathological conditions of the oral mucous membranes. This part of the dentists' professional responsibility has indeed been emphasized by the appearance of AIDS, since oral manifestations can be seen not only among AIDS-patients but they may also precede the general clinical signs of the disease in HIV-infected persons[7]. Examination of the oral cavity alone is, however, not a suitable method for screening populations for AIDS or HIV-positivity as this requires a high predictive value for positive as well as negative findings. The predictive value from examining the oral cavity is of course greater when carried out in populations with a high prevalence of infected persons, but it is still too low to be used alone. It might be concluded only that findings such as oral candidiasis, acute necrotizing ulcerative gingivitis, etc. may *be a sign of AIDS or HIV-positivity. The only pathognomonic sign for an HIV infection is ''hairy'' leukoplakia confirmed by histological examination[4, 7]. When oral lesions are found, the case history should be further elaborated with regard to general symptoms, sexual behaviour and other risk factors. If suspicion of an underlying immunodeficiency is supported, the patient should, if possible, be referred to an oral medicine unit, and, if indicated thereafter, transferred for final diagnosis and treatment. Surveillance and treatment of oral manifestations should be carried out in close collaboration with the responsible medical department.*

In contrast, ordinary oral health examinations and treatments are expected to be carried out in general dental practice. Unfortunately, there still seem to be dentists who refuse to treat HIV-infected patients, despite clear recommendations from the experts[8-10]. Apparently some colleagues require a complete guarantee that transmission will never occur in connection with oral health treatment; such a guarantee cannot be given. However, transmission during oral health treatment is still considered to be a theoretical possibility only, as no case of AIDS or HIV-positivity due to professional exposure has been reported among oral health personnel[10, 11]. A similar low risk of infectivity has been reported in other studies of health care workers[11-16]. A*

PRESIDENT'S COLUMN

Ron J. Markey, DDS, MSD
President of the Canadian Dental Association

THE PROFESSIONAL IN THE LARGER CONTEXT

You will have noticed by now that most of this Journal is devoted to the urgent public health issue of our generation — AIDS. These few paragraphs will not be about AIDS, although it has certainly been instrumental in some of the thoughts I would like to share with you.

Last month's column contained a few words on the significance of being a professional person and maintaining our integrity as a profession. Being a dentist today is not as easy as it used to be. One of the attractions of our profession for many was the fact that a practitioner, once graduated, could be an independent ''small business person''. He or she had a responsibility to practice high standards in their office but it was possible to select where and when you wanted to establish yourself, to practice how you wanted, and to be free of as many outside interferences or even obligations as you might choose. All of this has changed.

Being a dentist today demands a level of awareness and participation that no longer makes it acceptable to practise isolated and insulated from the community at large. AIDS is a case in point. It is not a local or community problem. It has national and global impact. So it is with many issues confronting organized dentistry. We will be trying to develop national strategies to deal with AIDS. We have already dealt with capitation as a national problem. We are trying to become more politically involved at the local and national levels. We are dealing with the level of awareness Canadians have regarding their oral health as a national issue. We are addressing the concerns of both the dentists and the public in the taxation area as a national issue. The results of some of these activities have been seen and more will come. These are but a few examples, but the list goes on.

The point is that our responsibility as professionals demands more than ever before. Failure to use the vehicles available at the professional and community level, to get involved and to stay informed is not acceptable in 1987. Participation and awareness are the key words. The professional community is becoming a very fast track. Don't fall off.

depressing factor when dentists reject HIV-infected patients is that the psychosocial pressure on the infected persons is increased even further. Furthermore, the dentists in question do not live up to an acceptable professional and ethical standard, and they do not eliminate the theoretical risk of becoming infected, as rejected patients most likely will seek another dentist and then conceal their HIV-positivity. Finally, only a minority of the infected cases will be identified at a given period, which stresses the unwise decision of rejecting a patient who benefits the dentist by confiding his/her seropositivity.

The World Health Organization considers that dentists have a professional and human obligation to treat and care for HIV-infected persons. In this way the dental community can, together with other health care workers, psychologists, social counsellors, etc., support the infected and the diseased. AIDS and its related problems are not going to disappear in the near future. It is high time that all dentists, especially in countries where HIV-infection is a major public health problem, accept their role in the combat and prevention of the disease.

The World Health Organization is in the process of establishing an International Collaborating Centre for the Oral Manifestations of the HIV-infection at the Dental Department of the University Hospital (''Rigshospitalet'') in Copenhagen, Tagensvej, DK-2200 Copenhagen N., *Denmark.*

As far as financial resources allow the Centre will assist the dental profession in arranging courses, and will supply teaching material and other types of information.

* 1 case has thus far been reported in the U.S. in 1987.

Oral Health Unit
World Health Organization

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PAST PRESIDENT AWARDED CDA'S HIGHEST HONOR

Dr. William R. Thompson, who served as President of the Canadian Dental Association in 1982, was given CDA's highest honor — Honorary Membership — during the annual meeting of the CDA Board of Governors in Ottawa, September 11-12.

After graduation from the University of Toronto with his DDS in 1949, Dr. Thompson embarked on a highly successful career in dentistry in the Canadian armed services at a number of Canadian and overseas bases, as a general practitioner, oral surgery specialist, clinical instructor and dental administrator.

By 1975, Dr. Thompson had achieved the post of Director General, Dental Services and attained the rank of Brigadier-General. He remained in that office until 1982, when he became President of the CDA. During the same period, he was a member of CDA's Board of Governors and was, in 1980, appointed to the Executive Council.

He began to bring honor to Canadian dentistry in 1973, when he was made a Fellow of the International College of Dentists and was named an Honorary Dental Surgeon to the Queen. These honors continued as Dr. Thompson served with distinction, from 1975 to 1980 as Chairman of the Defence Forces Commission of the Fédération Dentaire Internationale. Since 1983, he has served on the Executive Committee of the FDI.

Dr. Thompson's already illustrious career was further enhanced in the 1978-79 period, when he received the Order of St. John of Jerusalem, the Pierre Fauchard Medal from the National Order of Dentists of France and was made a Fellow of the Royal College of Dentists of Canada.

He was named Commandant, Canadian Forces Dental Services, in 1985.

Dr. Thompson, right, receives the distinction of CDA Honorary Membership from retiring CDA President, Dr. John R. Robertson, during the annual meeting of the CDA Board of Governors.

DR. J.W. NIEDERMAYER IS CDA PRESIDENT-ELECT

J.W. (Jack) Niedermayer, BA, DDS, a private practitioner in Regina, Saskatchewan, was named President-Elect of the Canadian Dental Association at the annual meeting of the CDA Board of Governors in Ottawa, September 11-12.

A native of Regina, Dr. Niedermayer received his BA at the University of Saskatchewan in 1960, and his DDS degree from the Faculty of Dentistry of the University of Alberta, in 1964.

He established a general dental practice in Regina in 1964 and continues to conduct it.

Dr. Niedermayer acquired an interest in organized dentistry early in his career and began to demonstrate his leadership skills in the Regina and District Dental Society. He served as President of that body in 1974.

Later, the College of Dental Surgeons of Saskatchewan enjoyed the benefits of his counsel and executive abilities. He served as chairman of the College's Economic and Legislative Committees and rose to the presidency in 1977.

On the national scene, Dr. Niedermayer became a member of the CDA Board of Governors and served from 1981 to the present. He has also been a member of the Executive Council since 1982.

He is a past member of the CDA Committee on Salaried Dentists and has been CDA Liaison to the Councils on Student Affairs, Information Services, Health Care, Hospital and Institutional Services, and Ethics.

He continues to be an active member of the Regina and District Dental Society and the College of Dental Surgeons of Saskatchewan. He serves as a member of the dental staff of Regina's Pasqua Hospital.

Dr. Niedermayer is a Fellow of the International College of Dentists.

He enjoys golf, curling and monitoring air traffic controllers' commentaries.

Dr. Niedermayer and his wife Nicky have a family of four daughters.

Dr. Niedermayer, left, is congratulated as the new CDA President-Elect by past-President Dr. John R. Robertson, centre, and President Dr. Ron Markey.

REVIEW CALLED OF LIABILITY ISSUES IN HEALTH CARE

Health and Welfare Canada has been concerned for some time about the potential effect of liability issues on the Canadian public health care system. At their last meeting, federal, provincial and territorial ministers of health asked their deputy ministers to review the issue of liability in health care.

The deputy ministers at a subsequent meeting decided to appoint a prominent Canadian who would be assisted by an Advisory Committee to carry out this review.

Deputy Minister, Health and Welfare Canada, Maureen Law, has announced that J. Robert S. Prichard, MBA, LLB, LLM, Dean of Law at the University of Toronto, has agreed to carry out this review.

Dean Prichard is the author of numerous books and articles on Tort liability, regulation, law reform and the economic analysis of law. Currently he is Chairman of the Ontario Law Deans. He is a member of the Ontario Law Reform Commission and has been active in consulting roles.

Review mandate

The mandate of the Review Committee is:
1) To examine and report on the issues relating to liability and compensation matters associated with health care delivery provided by professionals, institutions, voluntary organizations and the Canadian blood supply system.

2) To advise on possible legal reforms designed to ameliorate the cost of liability claims on the Canadian public health care system.

3) To advise on the possibility of alternative mechanisms to litigation for persons who have become disabled following injury occurring during the provision of health care.

Dean Prichard is being supported in his task by Dr. Frank J. Sellers. Dr. Sellers is currently on an interchange from the University of Ottawa, where he is a Professor of Pediatrics.

An eight-member advisory committee has been appointed and the review process includes consultation with appropriate groups, associations and persons, and the general public, who can provide pertinent information.

Dean Prichard began the work of the review group in September, and the expectation is that he will provide the conference of deputy ministers with a report in one year.

PROGRAM STRATEGIES TO REDUCE TOBACCO USE ANNOUNCED

In a cooperative effort between federal, provincial and territorial governments and some of Canada's major health care organizations, a strategy has been developed for achieving a generation of non-smokers by the year 2000.

The Directional Paper was released at a recent meeting of the Canadian Public Health Association. It outlines the goals, objectives and strategies of the National Program to Reduce Tobacco Use.

The initial focus of the Program has been youth between the ages of 12 and 17, when smoking is most likely to start. The longer term goals and scope of the program include: protecting the health and rights of non-smokers; preventing smoking onset among youth, and helping current smokers to quit.

Seven overall strategies for achieving these goals have been identified:

1. Legislation
2. Information sharing
3. Increased educational programs and services.
4. Promotional campaigns.
5. Community development and action.
6. Policy development and coordination.
7. Research.

The Directional Paper explores two major aspects of tobacco use in Canada. First, it examines the current situation in terms of trends and consequences of tobacco use in Canada, public opinion on the issue, the activities and influence of the tobacco industry and the scope and relative effectiveness of existing programs and policies to promote non-smoking. Second, the paper describes the rationale, present structure and overall goals of the National Program to Reduce Tobacco Use and recommends long and short term objectives together with strategic directions which need to be pursued if these objectives are to be reached.

The Chairman of the Steering Committee of the National Program is Barbara Jones, who can be contacted at 403-427-5367 for more information.

For copies of the Directional Paper, write to National Program to Reduce Tobacco Use, Room 444, **Jeanne Mance Building**, Ottawa, Ont. K1A 4B4.

THE "DID YOU KNOW?" QUIZ!

Test your memory and knowledge of an item that has appeared in a previous issue.

This month's question:

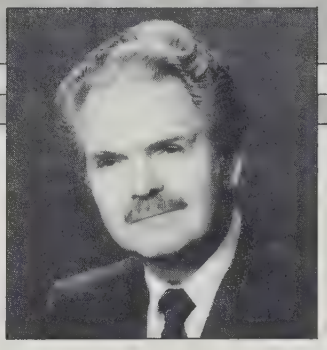
Who is the Chairman of C.D.A.'s Taxation Committee and name at least *TWO* of the Committee's accomplishments?

THE PRIZE: For the first FIVE correct answers drawn at random, 100 FREE CDA PAMPHLETS* of your choice can be won.

Send your answer to **DID YOU KNOW?** c/o The Journal of the CDA 1815 Alta Vista Drive Ottawa, Ontario, K1G 3Y6

* *Excluding* the pamphlet "Consumers Guide to Dental Care"

GOOD LUCK!



DID YOU KNOW?

P. Ralph Crawford, D.M.D.

"To be prepared for war is one of the effectual means of preserving peace."
Geo. Washington (1732-1799)

DID YOU KNOW: During Charles I's reign, 1625-1649, the sole dental requirement for the King's standing army was the possession of incisor teeth. The requirement had nothing to do with mastication or esthetics, but survival – the teeth enabled the soldier to bite off the cap of the charge when he loaded his musket.

DID YOU KNOW: The first Canadians to serve as dentists in combat was during the Boer War, 1899-1902. Dr. David H. Baird (1874-1957) of Ottawa served with the 10th Canadian Field Hospital, and Dr. Eugene Lemieux (1871-1952) from Montreal, was attached with the 2nd Battalion Royal Canadian Regiment.

DID YOU KNOW: With the outbreak of war in August 1914 it was readily apparent that a significant number of potential recruits had to be rejected for dental reasons. Consequently, on April 20, 1915, the Canadian Army Dental Corps was authorized to support the Canadian Expeditionary Force destined for overseas combat. Early reports indicate that by July, 1915, the C.A.D.C. had thirty dental officers, thirty-four non-commissioned officers and forty privates providing dental treatment in the United Kingdom. By 1918, the ranks had swelled to 223 officers and 495 other ranks serving in Britain, France and Belgium. From July 1915 to December, 1918, the C.A.D.C. performed 2,225,442 dental operations.

Seven dental officers and ten other ranks made the "supreme sacrifice" to end the war of all wars!

DID YOU KNOW: The Canadian Dental Association has always maintained a strong voice in support of dental services within the defence of our country. As early as 1902, at C.D.A.'s founding meeting in Montreal, concern was expressed that the military organize some type of treatment for service men.

In June 1938, a military committee of C.D.A. was asked to make representation to the Minister of National Defence proposing a self administered dental corps. On August 30, 1939, with the threat of World War II, a new, autonomous, independent unit, the Canadian Dental Corps under the command of Lt. Colonel Frank Lott was formed – much along the lines of recommendations proposed by C.D.A.

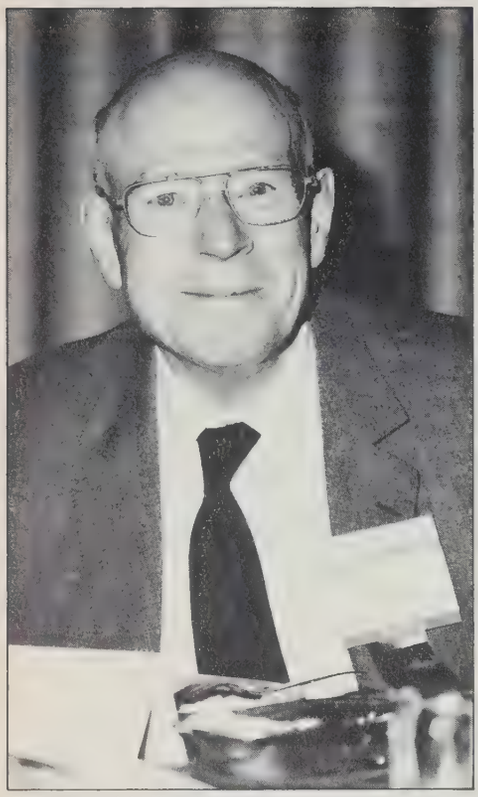
DID YOU KNOW: By the end of World War II there were 1562 dental officers and 3725 other ranks serving on five continents. Fourteen officers and nineteen other ranks were killed or died on active service.

The C.D.C.'s W.W. II mobile dental clinic concept was to become a model of efficiency, support and skill for every other country's armed services, and in fact was instrumental in the development of modern mobile civilian treatment for the 1980's.

DID YOU KNOW: Royal recognition of the Dental Corp's splendid performance during WW II came on January 15, 1947 when His Majesty King George VI granted the title "Royal". Successive world conflagrations were to call the Corps into active duty in Korea 1950, Suez 1956, and Cyprus 1964. Unification of the three Services in February, 1968, initiated a name change for the Corps in 1970 – Canadian Forces Dental Service.

DID YOU KNOW: The C.F.D.S. has had full voting privileges on the C.D.A. Board of Governors since 1975. Brigadier-General J. Fred Begin, Director General, currently represents this very distinguished and necessary section of Canada's Dental team.

Today, there are 180 dental officers and 340 other ranks serving the needs of 85,000 armed service personnel in Canada and Europe. There are 95 dental students in our 10 universities enrolled in the Dental Officers Training Program.



Dr. Harry Mullins Worth

LAUNAY, Philip: Dr. Launay was a graduate of the University of Western Ontario, London, in 1975, and had a practice in Kingston, Ontario. He died August 22, 1987.

LONG, G.W.: Dr. Long was a graduate of the Royal College of Dentists in Toronto in 1922. He resided in Toronto when he died this year.

MARCHAND, Jean-François: Né à Montréal en 1953 et diplômé de l'Université de Montréal en 1978, le Dr Marchand faisait partie de l'ADC et habitait à Saint-Laurent au moment de son décès.

PETERSON, J.E.: Born in 1908, Dr. Peterson graduated from the University of Toronto in 1934. He was a Life Member of the CDA and he lived in Howdenvale, Ontario, when he died in August 1987.

WILLIAMSON, James G.: Born in 1948, Dr. Williamson was a graduate of the University of Oregon in 1974. He practised in 100 Mile House, British Columbia, until the time of his death in August 1987.

Harry Mullins Worth
'GREATEST ORAL RADIOLOGIST' DIES AT THE AGE OF 90

Dr. Harry Mullins Worth, dentist and physician, hailed by colleagues as "the world's greatest oral radiologist", died recently in Victoria, B.C., at the age of 90.

The son of a British stonemason, Dr. Worth began working in a dental mechanic's laboratory at the age of 16, and acquired, early in his career, a desire for perfection. The environment inspired an interest in dentistry and he was graduated in 1919 from Guy's Hospital Dental School, in London, England.

Dr. Worth became fascinated with oral radiology while in dental school. He began a private practice in general dentistry but after six months, had to give it up because of a health problem – a bad back. He turned to oral radiology as a career. This choice influenced not only his own future but that of many individuals throughout the world.

He believed the best approach would be to complete a medical education and become a medical radiologist. He was graduated in medicine in 1925 from Guy's Hospital and gained his diploma in Medical Radiology the following year. Dr. Worth later received a Fellowship in the Royal College of Radiologists.

He conducted a radiology practice in London and worked in an honorary capacity in Guy's Hospital. The stress of this practice over the next 10 years again took a toll on his health and his physician urged him to give up his practice or risk a sudden heart attack.

Emigrated to Canada

Dr. Worth then explored the possibility of emigrating to Canada so that his brother in Victoria, B.C. could provide security for his wife and young daughter in the event of his demise. The family actually moved to Victoria in 1939.

The Canadian environment proved beneficial and his health improved. Anxious to be productive again, Dr. Worth spent a year visiting radiology departments in the United States. Then, in 1940, during a visit to Toronto, Dr. Worth was asked to help in the training of radiologists for the Canadian Air Force and Army. He became involved in the training of more than 70 such radiologists, many of whom continued their careers in civilian life. He remained on the radiology staff of several Toronto hospitals, with consulting responsibilities with the Canadian Armed Forces, and some hospitals in the United States.

During this period he became attached to the University of Toronto's dental faculty. Partly through his influence, Dr. Guy Poyton was appointed. Dr. Poyton was later responsible for setting up the first, and still only, graduate program in oral radiology in Canada.

Dr. Worth retired early from his Toronto hospital appointments and returned to British Columbia to write his book, which continues to be regarded as the definitive work on the subject of oral radiology for those with a keen interest in the subject.

When the Faculty of Dentistry was established at the University of British Columbia in 1962, Dr. Worth was ready to help develop oral radiology there. It was noted that he made frequent trips to Toronto and Seattle, and even beyond the age of 80, he was well able to present slides for three hours or more at a time, sometimes for five consecutive days. His boundless enthusiasm for the subject of oral radiology and his wealth of experiences and knowledge, inspired many in his audiences.

At the Centennial Convocation of the University of Toronto, he received an honorary Doctor of Laws degree. His earlier colleague there, Dr. Poyton, in his citation, referred to Dr. Worth as "the architect of oral radiology".

Other honors were heaped upon him, including Fellowships of the Royal College of Physicians of Canada, the Royal College of Dentists of Canada, and the Fellowship in Dental Surgery of the Royal College of Surgeons of England. More recently, he was granted Fellowships of the Academy of Dentistry International and the International College of Dentists.

A dental faculty member at the University of British Columbia noted that Dr. Worth had an exceptional ability in radiological interpretation and these skills remained with him until his death.

It was noted that his quest for perfection was equally evident in his gardening and his love of classical music. Much of his leisure time was spent in the garden where he transplanted shrubs and felled trees with an apparent lack of effort when he was well beyond four score years.

Dr. Worth is survived by his wife and daughter.

(JCDA thanks **Dr. Colin Price**, Chairman, Division of Oral Radiology, Faculty of Dentistry, University of British Columbia.)

THE DENTAL AWARENESS PROGRAM

REPORT

DENTAL HEALTH Good For Life

The Seniors Boom: Seniors and Dentistry

In recent years there has been dramatic growth in our seniors population, and with it a need to recognize the positive impact of older Canadians on the dental profession. Simply, dental offices can no longer afford to ignore elderly patients. Currently there are 2.5 million Canadians of age 65 or over. That is a threefold growth in just 55 years. Statistics Canada projects that by the beginning of the twenty-first century Canadians over 65 will number more than four million. It is our fastest growing age group.

Besides increasing numerically, the seniors population is undergoing a radical transformation of image. The slow, spectacled, sedentary grandparent of earlier years is making way for a new generation of energetic, independent, and well-educated older adults. In the last few years the elderly have acted successfully to begin changing public perceptions of their age group. They are increasing their media visibility and forming advocacy organizations. Steadily, they are forging a new role for themselves in society.

Many dentists are already encountering first-hand the important changes within the aging patient population. Various categories of seniors are emerging — each with its own specific needs in regard to treatment and attention.

"People who are now in their early sixties are one group," says Dr. Ralph Crawford of Winnipeg. "They were fortunate to have grown up with a more preventive focus. They are more willing to pursue the healthful benefits of regular dental care. Older seniors are another group. They grew up in harder times when dental health was just about the last thing on the list of priorities. Besides being financially impossible for most, visits to the dentist in those days were just too painful."

"Modern care came too late for these people," says Dr. Crawford. "Dentistry must now work to change their attitudes and behaviour, and teach them the value of regular dental care."

With the population boom of older adults more dentists trained in geriatric care will be needed to meet the special needs of older patients. As well, private practitioners, educators, researchers and medical professionals will need to work together closely to help the elderly improve the quality of their lives through oral health.

According to Dr. John R. Robertson ("Dentistry for Our Seniors," *Journal of the Canadian Dental Association,* No. 2, 1987): "Both organized dentistry and dental educators must develop dental care alternatives for seniors. Outreach clinics, mobile delivery programs, special clinical environments in private offices, home visits, and nursing home and institutional visits are just samples of what alternatives are available."

In a previous issue of the *Dental Awareness Program Report,* we examined ways in which dentists can work to educate and motivate their adult patients. In this issue, we look at ways in which those techniques can be extended to help communicate care to seniors.

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COMMUNICATING

1 BREAKING DOWN THE MISCONCEPTIONS

To a large degree, the "grey revolution" has concerned itself with breaking down myths and misconceptions about aging and the elderly, misconceptions that have tended in the past to impair the quality of life of seniors. As seniors themselves work to escape the stereotypes, dentists must do so also, for misconceptions about aging can interfere with quality geriatric care.

MYTH: *Tooth loss and poor dental health are a direct consequence of aging.*

While people do undergo many physical changes as they age, tooth loss is not necessarily one of them. However, the belief among seniors that tooth loss *is* a natural part of aging is self-fulfilling, in that it creates indifference to good dental care. It is important that the dental team help the older patient to understand that with proper dental care teeth can be kept healthy for a lifetime.

MYTH: *Geriatric dentistry means full dentures.*

"Even now, a quarter to a third of residents in homes for the aged and nursing homes have some natural teeth," says Dr. Hugh MacKay of Toronto. "As well, dentists in private practice see many elderly patients who have taken special care to maintain their natural teeth and healthy mouths. Increasing numbers of seniors are determined to keep their teeth for life."

Dr. MacKay's views are supported by the 1985 Canadian Gallup Poll on Oral Health, which indicated that less than 8 per cent of people over the age of 50 were fitted with full dentures. It is anticipated, by people over the age of 50, that in ten years that figure will only increase to 13 or 14 per cent. The same poll showed that among Canadians aged 30 to 49, less than one per cent were fitted with full dentures. In ten years only 1 to 2 per cent of these graying baby boomers anticipate being edentulous.

MYTH: *The majority of the elderly are institutionalized.*

"The majority of the elderly are not institutionalized," says Dr. Sandra Hyduk of Toronto. "In fact, only 5 per cent of the over-65 age group live in collective living centres."

Because most seniors do in fact live on their own, dentists cannot depend upon the professional staff of various institutions for the aged to ensure that seniors get the dental care they need. Rather, most seniors are looking out for themselves, and it is therefore imperative that dentists work to build seniors' dental awareness.

MYTH: *Senior patients are more set in their ways and less willing to change their behaviour and habits than younger adults.*

If anything, seniors may be *more* willing to change than younger adults, and are often very co-operative once they learn what oral health means and how it can affect their well-being.

GETTING A GRIP

Brushing and flossing can be difficult for older adults with arthritis in their hands. Such patients can be instructed to adapt their toothbrushes to compensate for their loss of dexterity. A styrofoam ball or bicycle grip can be attached to the toothbrush handle to make it easier to grasp and move. The handle may also be wrapped with sponge or tape. A gauze-wrapped tongue depressor can be taped to the toothbrush handle if it needs to be extended.

There are also many oral-hygiene aids on the market which can help to improve dexterity. These include electric toothbrushes, toothbrushes with thicker handles, and various flossing aids such as threaders and floss holders.

The willingness of seniors to change their lifestyles is evident in their move to physical fitness. Statistics Canada points out that in the short span of five years (1976 to 1981 — years in which the fitness message was widely communicated), the portion of able-bodied seniors exercising regularly rose from less than 50 per cent to nearly 60 per cent. This change is greater than that in any other population group.

Undoubtedly, this willingness to change is a product of the seniors' changing self-image. Among seniors, dentists are very likely to find many patients who are receptive to the dental care message.

2 UNDERSTANDING THE AGING PROCESS

While aging does not imply tooth loss, there are many physiological changes which *do* accompany the natural aging process, with consequences for the dental care giver. Understanding aging, and the ways in which it affects patients, is a first step in providing quality care for seniors.

Some changes have a direct physiological effect on oral health:

- Reduced salivary flow is directly linked to a higher incidence of root caries.
- Decreased cardiac output and the resulting decrease in circulation is related to gingival recession.
- The overall reduction in skeletal mass begins with the alveolar bone in the mouth.
- There is a progressive calcification of bones and teeth.

With age, both the incidence and severity of periodontal disease increase. Oral cancer, fungal infections, and brittle or discoloured teeth become more commond. Another age-related condition, xerostomia, may result from medication — particularly diuretics — used to treat systemic diseases.

Older patients are also more prone to hypertension, heart attack, strokes, and

arteriosclerosis. Dentists should be aware of these risks and monitor their patients' blood pressures.

Other changes in age do not affect oral health directly, but do affect the relationship between dentist and patient. Dentists should be aware of these changes in order to be able to communicate well with older patients, and make them as comfortable as possible during treatment.

- With age may come hearing loss — especially the loss of the ability to hear high-pitched sounds.
- There may also be a loss of visual acuity — particularly in focusing on objects that are very near or very far off.
- There is a loss of muscle mass with age with an accompanying loss of strength.

3 STRENGTHENING THE RELATIONSHIP

As we saw in an earlier issue of this report, *communicating* care means more than just providing adequate professional services. It means adding a vital, human element to the dental visit. This leaves important messages with the patient about both the dentist and dental health. It conveys to the patient that the dentist is a concerned, caring professional. And it communicates that dental health itself is important and worth caring about.

We discussed a three-part formula for communicating care: Taking time to talk — Taking time to listen — Taking time to teach. That formula applies to senior patients as much as it applies to younger adults. However, communicating care to seniors also requires something more — awareness of and responsiveness to the special needs of the older adult.

Making the Senior Patient Comfortable

- Schedule shorter appointments for seniors, so that they are less tiring. It is also a good idea to schedule appointments for seniors in the morning, when they will be more alert.
- Your receptionist should ask patients how they will be getting to the appointment. An early appointment could be scheduled if the patient is taking public transportation in the winter to ensure that he or she will not have to travel in the dark.
- Low waiting-area chairs or chairs without arms can be difficult for older people to get in and out of. The receptionist should offer to assist patients who may need help.
- If necessary, someone should escort elderly patients to the operatory and help them to manoeuvre around obstructions and corners.
- Small pillows placed behind the back or neck can help to make a patient more comfortable in the dental chair. Be sure to adjust the seat slowly, and frequently ask patients which position is most comfortable.
- Quickly shifting an older patient from a supine to an upright position in the chair can cause dizziness. Patients should be given time to adjust to the upright position before being asked to stand up. It helps if their feet dangle over the side of the chair for a few moments first.

Communicating Effectively with the Older Patient

- Some older patients find it difficult to take in a lot of new ideas at once. In talking with such patients, deal with only one idea or concept at a time, and wait until it is understood before you move on.
- Take the bit of extra time that may be necessary to listen to older patients. Give them sufficient time to explain their problems in their own words.
- Older patients may have difficulty with glare and problems reading fine print. Consider printing instructions and forms in large type on non-glare paper.
- Written instructions should be reviewed orally with all older patients.
- Many patients with hearing loss rely on seeing the speaker's face and lips for clarification. In talking to hard-of-hearing patients, therefore, dentists should remove their masks and make sure that light is not shining in the patient's eyes.
- Speaking in a louder voice to patients with hearing loss does not help them to understand better. Instead, reduce background noises by closing the operatory door, speaking with the patient in a private office, or turning down the volume of the office music system.
- Senior patients may often be worried about the affordability of dental care. It is a good idea to be prepared for an open discussion about budgets and payment, and to be able to suggest a payment plan.
- Like everyone else, older patients take pride in their progress. Be sure to congratulate them when their level of care goes up and when their dental health shows improvement.

GETTING THE FACTS STRAIGHT

Simply asking senior patients to complete a questionnaire is not the best way to get their medical and dental histories. Questions are often too general, and leave room for misinterpretation. Rather, office staff should assist older patients in completing the form. Medical histories should then be reviewed by the dentist orally with the patient. Histories should be updated at each visit.

Patients may not always remember the types and strengths of the medication they are taking. In this case, the dentist should consult the patient's physician. The physician may also be able to answer questions about the patient's ability to tolerate a particular treatment or drug and to offer suggestions on how to manage or implement a treatment plan. The names and numbers of patients' physicians and medical specialists should be readily available in case of emergency.

FACT SHEETS FOR SENIORS!

To help you encourage your older patients to take an interest in their oral health, we have created a series of six fact sheets that will be available in January through an order form in the Journal.

The fact sheets that will be available to you include:

- **Getting the Care You Need**
  To help seniors understand the need for and value of professional dental care. Includes questions for seniors to ask their dentist so that they can understand the care they need, the care they receive and the value of the care they have received.
- **What Your Mouth Can Tell You**
  A list and description of common oral conditions or symptoms about which a senior should ask a dentist.
- **Dental Care Checklist**
  Checklist of important practices and habits for personal dental care for seniors with natural teeth, complete or partial dentures.
- **Do You Know What You're Missing**
  Three simple reasons seniors need a dentist for regular professional care.
- **Essentials for Denture Wearers**
  Four ideas for healthy wearing of dentures, including a few essential cleaning tips.
- **Helping Others to Dental Health**
  The key information and how-to's for someone to understand and to help a senior take care of personal dental health needs.

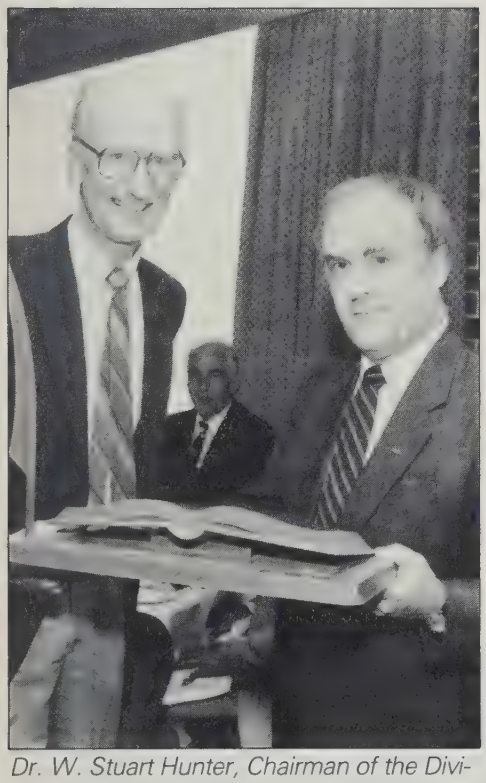
Your dental team will be able to hand out the fact sheets and discuss them, either with patients personally or with family members caring for elderly people. The sheets will provide useful information and encourage important conversation between your dental team and the patient.

Look for the fact sheet order form in January.

UWO RESEARCHER WINS CDRF AWARD

Leonard Chumak, DDS, MC1D, a University of Western Ontario researcher in the Division of Orthodontics, has received the Canadian Dental Research Foundation (CDRF) Award for his paper: "*In vitro* investigation of lingual bonding."

Dr. Leonard Chumak of the Faculty of Dentistry, University of Western Ontario, left, receives the Canadian Dental Research Foundation Award from CDA Past-President Dr. John R. Robertson at the Awards Luncheon during the annual meeting of the CDA Board of Governors.



Dr. W. Stuart Hunter, Chairman of the Division of Orthodontics, Faculty of Dentistry, University of Western Ontario, receives the CDRF Institutional Trophy from Dr. John R. Robertson at the Awards Luncheon. Dr. Hunter accepted on behalf of Dean of Dentistry, UWO, Dr. Ralph Brooke, who was unable to attend.

He received his award from the then President of the Canadian Dental Association, Dr. John R. Robertson at the Awards Luncheon during the annual meeting of the CDA Board of Governors.

The award is presented biennially to a graduate or postgraduate student who submits the best report on a research project (dental) conducted in a Canadian university.

Dr. Chumak, 29, is a native of Toronto. He received his DDS degree from the University of Toronto in 1981 and his Masters degree in Clinical Dentistry from the University of Western Ontario, in 1985.

He first conducted research in lingual bonding at Western from 1983 to 1985, under the supervision of Dr. K.A. Galil an Associate Professor in the Faculty of Dentistry.

Dr. Chumak then proceeded to work in the area of debonding and enamel fracture, in 1985-86. He classified this as "*In vitro* research related to clinical orthodontics."

His winning paper is listed as "in press.".

AD LIB

by Cuspid

AIDS AND DENTISTS

As of September 1, there have been 1,239 recorded cases of AIDS in Canada – and 657 deaths have occurred among those cases. It is estimated that as many as 10 million people world-wide may have been infected with the HIV virus.

The fact that the spread of AIDS has considerable implications for health professionals, including dentists, is illustrated by the Halifax heart surgeon who refused earlier this year to perform elective surgery on a homosexual patient until that patient was tested for the HIV virus. Even though the occupational risks among health professionals for acquiring AIDS are quite small, the ethical issues are growing rapidly. After all, the healing tradition of treating the victims of contagious disease, even when this places the healer at risk, goes back to the beginning of time. As US surgeon-general Dr. C. Everett Koop puts it: "I would feel obligated to treat patients with AIDS".

Dentists may feel particularly in the front line in this matter. As *Newsweek* (August 3, 1987) comments: "Dentists may be the most reluctant health professionals to treat patients with AIDS. The New York City Commission on Human Rights is currently investigating 25 complaints of discrimination brought against the city's dentists and dental clinics".

But 4,000 dentists attending the annual meeting of the Academy of General Dentistry in Seattle this summer adopted a resolution calling for dentists to use special precautions against infectious diseases, including AIDS. These measures include wearing masks, gloves and goggles. Delegates attending the Seattle meeting learned that only 25 to 33% of dentists now take such protective precautions.

And, even though risks are acknowledged to be low – they still exist. Perhaps the solution is to treat all patients as if they're infectious . . . particularly since even a routine cleaning, which stirs up the generally harmless bacteria living in a patient's mouth, can cause other infections.

At the third international conference on AIDS in Washington, DC, in June, delegates learned that 93% of dentists and 95% of hygienists studied reported accidental puncture wounds from sharp instruments; further, of 1231 dentists and hygienists treated for exposure to the AIDS virus, only one tested positive for the AIDS antibody. Since it's virtually impossible to identify a potential HIV carrier, dentists must assume that every patient who goes to their office is a potential risk. . . and should practise recommended barrier techniques for all of them. The (US) Council on Dental therapeutics recommends the following infection control procedures: Gloves should be worn in treating all patients; masks should be worn to protect oral and nasal mucosa from splatter of blood and saliva; eyes should be protected with some type of covering to protect from splatter; sterilization methods known to kill all life forms should be used on dental instruments. These include steam autoclave, dry heat oven, chemical vapor sterilizers, and chemical sterilants; attention should be given to clean up of instruments and surfaces in the operatory. This includes scrubbing with detergent solutions and wiping down surfaces with iodine or chlorine solutions; and contaminated disposable material should be handled carefully and discarded in plastic bags to minimize human contact. Sharp items such as needles and scalpel blades should be placed in puncture-resistant containers before disposal in the plastic bags.

Again, even though risks are low and the incidence of transmission of AIDS to dental workers is minuscule, the number of AIDS-infected people is growing rapidly. The fluids and secretions encountered in the practice of dentistry create a *potential* risk for transmitting the disease between patients and from patients to dentists and hygienists. The *Journal of Prosthetic Dentistry* (November 1984) further warns that impressions for prosthetics present special problems . . . since they frequently have blood on them and are always contaminated with saliva. That journal recommends that impressions should be bagged in the operatory for transfer to the lab, that lab surfaces should be covered with a protective material composed of absorbent paper with a fluid-impervious plastic backing . . . and that impressions should be poured under a fume hood while appropriate lab coats or gowns are worn. Finally, impression trays should be sterilized before they are cleaned and resterilized if from a known AIDS patient.

While the possibility of transmission of AIDS during dental treatment has caused some agitation among dental professionals, such professionals can surely draw protection and comfort from taking the kinds of measures increasingly recommended – and referred to here.

Dr. Chumak has been Assistant Clinical Professor in Orthodontics on a part time basis, since 1985.

Specialty practice

Dr. Chumak has also carried on a practice in Owen Sound, Ontario, in an orthodontic clinic.

Most recently he has gone to Germany on a two-year posting to provide orthodontic care for civilian dependents of Canadian armed forces personnel serving on NATO bases in Northwestern Europe.

Institutional trophy

The Institutional Trophy, which is presented to the dental faculty of the university where the CDRF Award winner's research was conducted, was presented to Dr. W. Stuart Hunter, Chairman of the Division of Orthodontics, University of Western Ontario, London. Dr. Hunter accepted the Trophy on behalf of UWO's Dean of dentistry, Dr. Ralph Brooke.

Dr. John R. Robertson also presented this award.

Past presidents of the CDA were also guests of honor at the Awards Luncheon. They posed for the JCDA Cameraman. They are, from the left; Drs. R.L. Moran, (1978), Bradley Holmes, (1985), Michael J. Cripton, (1976), Robert Hicks, (1983), William R. Thompson, (1982), P. Ralph Crawford, (1984), and J. Fred Reid, (1974).

DR. JAMES D. McLEAN RECEIVES HIGH CDA HONOR

Dr. James Douglas McLean, who gained great distinction as a professor and Dean of the Faculty of Dentistry at Dalhousie University in Halifax, was honored by the CDA at the annual meeting of the Board of Governors, September 11-12.

Retiring CDA President Dr. John R. Robertson, himself an alumnus of Dalhousie, presented the Canadian Dental Association's Distinguished Service Award to Dr. McLean "for outstanding service to the dental profession."

Dr. McLean, who also saw service as a dental officer with the Royal Canadian Dental Corps during the Second World War in Canada, Britain and Northwest Europe, began to make his mark as an educator and administrator in 1947. That year he joined the Faculty of Dentistry of the University of Alberta.

He was named Dean of Dentistry at Dalhousie in 1954 and served in that capacity until 1975. Dr. McLean also was active as a professor in dentistry and continued in that role until his retirement, in 1985.

Dr. McLean has been acclaimed as "an innovator in dental education". He established a highly effective faculty and the Dalhousie dental school enjoyed one of its greatest periods of development and expansion under his leadership. He also recognized the importance of oral hygiene and established a program to train professionals in that discipline.

He generously offered his expertise and leadership to other health organizations, the arts and groups involved in religious education.

Dr. Robert Schiewe, left, a Past-President of the Ontario Dental Association and past CDA Governor, received the CDA Award of Merit from Dr. John R. Robertson at the Awards Luncheon.

Dr. James Douglas McLean, left, hailed as "an innovator in dental education", received CDA's Distinguished Service Award from retiring CDA President, Dr. John R. Robertson during the annual meeting of the CDA Board of Governors in Ottawa, September 11-12.

CFDE INVITES FELLOWSHIP APPLICATIONS FOR TEACHER/RESEARCH TRAINING

The Canadian Fund for Dental Education has just announced that March 1, 1988 will be the deadline for filing applications for a teacher/research fellowship for the 1988/89 academic year.

Forms and information may be obtained from the Dean's office in each of the Canadian faculties of dentistry or through the office of the CFDE, located at 105–1815 Alta Vista Drive, Ottawa, Ontario, K1G 3Y6, (613) 731-0493.

Candidates must be Canadian citizens or permanent residents who have completed an undergraduate course in dentistry, dental hygiene or a program in science and be eligible for admission to a graduate school.

Applicants must declare their firm intention to become a teacher and/or researcher in a Canadian faculty of dentistry or dental auxiliary training program. The minimum commitment in this regard is two days per week and preference will be given to those applicants who will return to a full-time teaching/research position.

The number and the value of each fellowship will be determined by the Fund's Advisory Committee on Fellowship Selection and the Board of Trustees.

The names of the fellowship recipients will be announced after the CFDE annual Board of Trustees meeting, in the middle of the month of May 1988.

CDA RETIREMENT SAVINGS PLAN

Unit values: (Funds are valued weekly)

Fund	Unit values as at September 30, 1987	August 31, 1987
Fixed Income Fund	55.38332	55.87228
Common Stock Fund	152.68129	154.79905
Money Market Fund	38.36366	38.13438
Balanced Fund	25.33026	25.62299

Interest rates:

Guaranteed Fund Term	*Interest rates as at September 30, 1987	August 31, 1987
1 yr	9.25%	9.05%
2 yr	9.75%	9.50%
3 yr	10.25%	10.00%
4 yr	10.50%	10.10%
5 yr	10.75%	10.35%

(*rates subject to change without notice.)

Total Assets (Market value) of the Plan as of:

September 30, 1987	August 31, 1987
$89,423,996	$90,740,375

For further information:

Write:

Canadian Dental Service Plans Inc.
Retirement Services Department
Suite 600, 2 Lansing Square
Willowdale, Ontario M2J 4Z3

or phone, toll-free:

Western and Atlantic Canada and Ontario Area Code 807 only 1-800-268-5418
Quebec and Ontario, (except Area Code 807) 1-800-268-3411
Metro Toronto Area . . . 497-7117

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Briefly

Dr. Ronald E. Jordan

Dr. Ronald E. Jordan of the Faculty of Dentistry, University of Western Ontario is the 1987 recipient of one of dentistry's most prestigious international awards – the Pierre Fauchard Academy's Elmer S. Best Memorial Award.

The Award is named for the founder of the Pierre Fauchard Academy and is awarded to a member of the dental profession from outside the United States who has made distinguished contributions of international significance to dentistry.

The Academy cited Dr. Jordan's "long devotion to research in the field of dental composites."

The presenting "Ambassador" was Dr. Donald E. Williams of Moncton, New Brunswick, a Past-President of the Canadian Dental Association.

At the recent official opening of the Vancouver Trade & Convention Centre, one of the first and largest conventions to sign a contract was the Canadian Dental Association, which will host the Fédération Dentaire Internationale Congress there in 1994.

Representing the CDA at the opening were Dr. Ron Markey, now President of the CDA, Mr. Jardine Neilson, CDA's Executive Director, Dr. Jan Erik Ahlberg, Executive Director of the FDI and Dr. Robert Hicks, a CDA Past-President and presently FDI National Treasurer.

The Hon. Grace McCarthy, BC's Minister of Economic Development, congratulates CDA Executive Director Jardine Neilson, right, for winning second prize in the axe-throwing competition — a part of festivities marking the opening of Vancouver's new Trade and Convention Centre.

Among the attendant activities to mark the occasion were a salmon barbeque in Stanley Park, Vancouver, and B.C. style logging demonstrations. The Journal is informed that CDA Executive Director Jardine Neilson is now to be officially known as British Columbia's "token" Eastern logger. He placed second in the axe throwing contest!

Officiating at the signing of a contract for FDI's world dental congress at Vancouver's brand new Trade and Convention Centre in 1994 were, left to right: CDA Executive Director A. Jardine Neilson, FDI National Treasurer and former CDA President Dr. Robert Hicks, and FDI's Executive Director Dr. Jan Erik Ahlberg, from London, England.

A province-wide AIDS hotline was recently made available by the Ontario Ministry of Health. The new toll-free service enables callers from all parts of Ontario to receive authoritative information about the disease.

"Since more than 2,800 Ontario residents have already tested positive for the AIDS virus this new service will be a vital part of our province's battle against AIDS," former Ontario Health Minister Murray Elston said when he announced the service.

The facility provides four telephone lines and trained staff to handle public queries. Staff members are knowledgeable in the scientific facts about AIDS, its psychological and social effects and the community resources available to callers.

During those hours when hotline staff are not available, a recorded message will provide callers with basic information and ask them to call back when a staff member is available. These messages are being monitored to determine whether the hours of operation should be expanded because of high demand.

A number of hotlines have been operating in individual communities throughout Ontario, including Ottawa, Kingston and Toronto. The new service augments the local services.

Start-up operational costs were expected to be $286,300. The Ministry has estimated that the annual costs will be about $458,000.

ACFD/CFDE Summer Teaching and Management Institutes (1987)

This past June, 36 dental and dental auxiliary educators from across Canada gathered together in London, Ontario, on the campus of the University of Western Ontario, to attend the third Summer Teaching Institute and the inaugural Summer

Management Institute. This marks the third summer in a row that ACFD and CFDE have joined forces in a successful joint venture designed to upgrade the teaching and, this year, the management skills of dental educators in Canada. The Institutes were extremely successful and CFDE has announced the continuation of their funding for 1988.

1987 ACFD/CFDE Summer Management Institute Participants. Back Row: David Chambers (Director), Bill Wood (UBC), Paul Schuller (Alberta). Middle Row: Leon Richardson (Manitoba), Susan Haglund (Open Learning Institute, Vancouver), Stephane Schwartz (McGill), Pierre Lamontagne (McGill), Monick Valois (Laval), Don Brunette (UBC), Barbara Zier (Alberta). Front Row: Don Gratton (UWO), Gary Gibson (UBC), Marnie Forgay (Dalhousie), John Silver (UBC), John Eisner (Dalhousie — Institute Coordinator), Amazis Louka (Manitoba). Missing: James Wright (Manitoba), David Singer (Saskatchewan).

1987 ACFD/CFDE Summer Teaching Institute Participants. Back Row: Antonios Mamandras (UWO), Jean-Paul Goulet (Laval), Sergio Weinberger (UWO), Hardy Limeback (Toronto), David Sweet (UBC), Helen Lyttle (Manitoba), Richard Lewis — Instructor (Windsor), Tim McGaw (Alberta), Chris Clark (UBC), Bruce Squires (Director), John Eisner — Co-ordinator (Dalhousie). Front Row: Jan Pimlott (Alberta), Laura Dempster (Toronto), Jose Dulude (Montreal), Robert Charland (Montreal), Rosamund Harrison (Dalhousie), Shirley Silverman (Seneca College), Barbara Kelso (Algonquin College). Missing: Bruce Chenail (Saskatchewan).

DENTAL AWARENESS PROGRAM UPDATE

PREACH WHAT YOU PRACTICE

DENTAL HEALTH

LET'S KEEP IT *Good For Life*™

1988 is just around the corner and with it will come a full colour brochure and order form for the Dental Awareness Program.

The order form will be inserted into the January edition of the Journal. It will provide you a first hand look at the patient education and motivation materials that are available from the Canadian Dental Association.

Featured will be: the informative and educational core materials (the brochures, fact sheets and posters); First Teeth, the latest addition to the DAP developed for parents of children up to the age of nine, and, this year's dental health month theme materials.

Remember, it's important to keep a good supply of DAP materials in your office all year long. They provide an excellent source of information for your patients. These materials and a few minutes of explanation from either you or your staff and your patients will know that they are receiving the best possible care.

Come January, don't forget to order your office's materials.

THE CHECKUP IS STILL AVAILABLE

The Checkup, a bright, 12-page publication featuring test-yourself questions and answers about dental health is still available.

The Supplement follows the theme question *Do you know what you have to do to keep your dental health Good For Life?* The answers are uncovered as the reader works his or her way through the short, wonderfully illustrated True/False quiz on dental health.

To date, the Checkup's reach has been excellent. As a supplement in the May Chatelaine, the Checkup's distribution topped an estimated 1.4 million copies and reached over 4 million Canadians. As an educational aid for your office's patients, the supplement would reach many more Canadians and help them to keep their teeth Good For Life.

To order your office's supply, enclose $4.00* per 100 ordered (for shipping and handling) and mail to:
Order Section
Canadian Dental Association
1815 Alta Vista Drive
Ottawa, Ontario
K1G 3Y6.

* price subject to change as of January 1, 1988.

A REMINDER. . .

Dental Health Month '88 is coming sooner than you think. With April only four months away — ***now*** is the time to be planning for all the month's special activities.

If you're looking for new ideas, the Dental Health Month Planning Kit can provide you with plenty of suggestions.

Just a little imagination and a few moments of thought are all it will take to help next April to be the best DHM ever.

Resource Centre de documentation

AIDS

SIDA

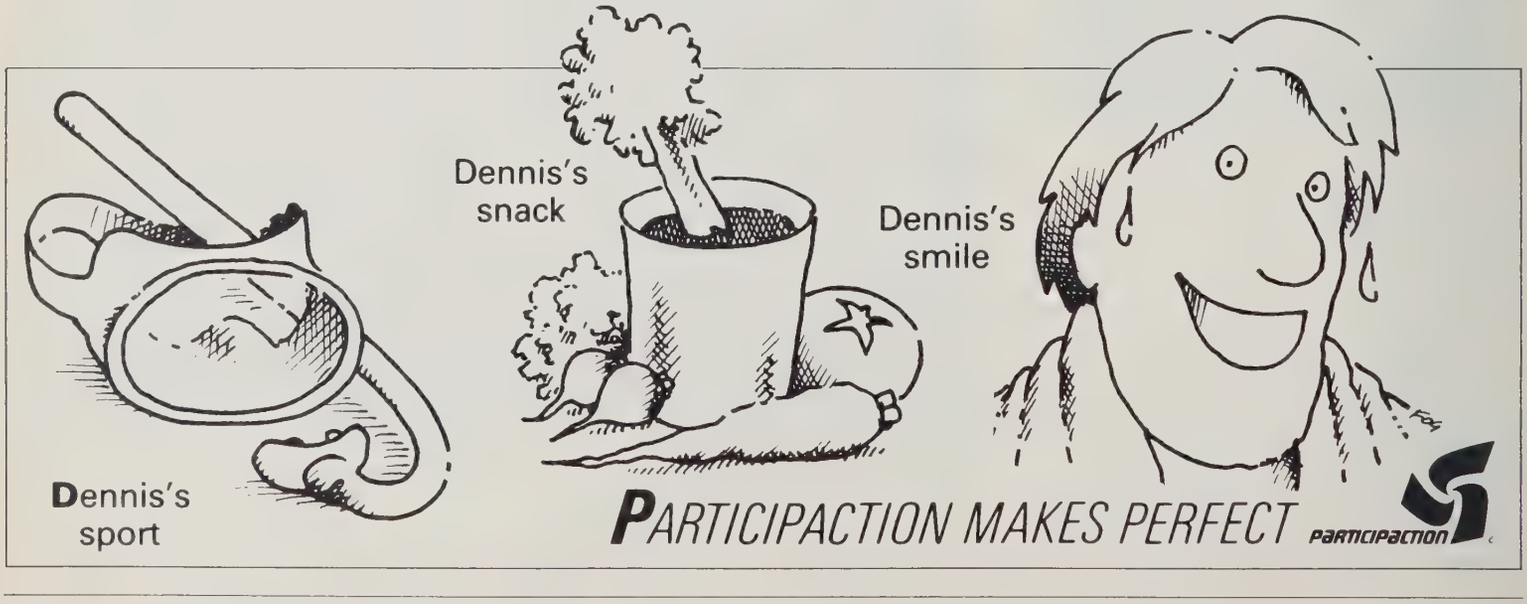
1. Barr, C.H., Torosian, J.P. and Quinones-Whitmore, G.D. *Oral Manifestations of AIDS: the dentist's responsibility in diagnosis and treatment*. Quintessence International, v. 17, no. 11; Nov. 1986, p. 711-717.
2. Barrett, A.P. and Cunningham, A.L. *Acquired immunodeficiency syndrome: a perspective*. Australian Dental Journal, v. 32, no. 1, Feb. 1987, p. 22-7.
3. Colchamiro, E.K. *The control of infections in the dental operatory*. The Compendium of Continuing Education in Dentistry, v. 7, no. 6; Jun 1986, p. 394-403.
4. Freund, B.J. and others. *Aids in dentistry: risks and protocol*. Ontario Dentist, v. 64, no. 4; Apr. 1987, p. 81-86.
5. Gerbert, B. *Aids and infection control in dental practice: dentists attitudes, knowledge, and behavior*. Journal of the American Dental Association, v. 114, no. 3; Mar. 1987, p. 311-14.
6. Journal of the American Dental Association. *Aids: the disease and its implications for dentistry*. Journal of the American Dental Association, v. 115, no. 3; Sept. 1987, p. 394-403.
7. Lynn, A.M. *Aids and the dentist*. British Dental Journal, v. 162, no. 6; Mar. 12, 1987, p. 211-12.
8. Milgrom, P. and Fiset, L. *Local anaesthetic adverse effects and other emergency problems in general dental practice*. International Dental Journal, v. 36, no. 2; Jun 1986, p. 71-76.
9. Phelan, J.A. and others. *Oral findings in patients with acquired immunodeficiency syndrome*. Oral Surgery, Oral Medicine, Oral Pathology, v. 64, no. 1; Jul. 1987, p. 50-56.
10. Porter, S.R., Scully, C., and Cawson, R.A. *AIDS: update and guidelines for general dental practice*. Dental Update, v. 14, no. 1; Jan-Feb. 1987, p. 9-17.
11. Rosenwald, F. *SIDA: une inquiétude justifiée, mais pas au cabinet dentaire*. L'Information Dentaire, v. 69, no. 19; 14 mai 1987, p. 1667-1670.
12. Rozovsky, L.E. *AIDS and the law*. Dental Practice Management, Summer 1987, p. 31-33.
13. Starr, C. *Dental implications for patients with acquired immune deficiency syndrome*. General Dentistry, v. 35, no. 1; Jan-Feb. 1987, p. 22-25.

One copy of the above articles is available at no charge from the library to all CDA members. Non-members will be charged $5.00. This bibliography was generated with the help of MEDLARS, a computerized information retrieval system for the Health Sciences field, which has been operational in the Library since February 1982, and is at the disposal of all members.

La bibliothèque de l'ADC offre gratuitement à ses membres et pour $5.00 aux non membres une copie des articles au-dessus. Cette bibliographie a été préparée avec l'aide de MEDLARS, un système informatisé de recherche bibliographiques pour les sciences de la santé. Ajouté à la bibliothèque en février 1982, ce système est à la disposition de tous les membres.

NEW ACQUISITIONS

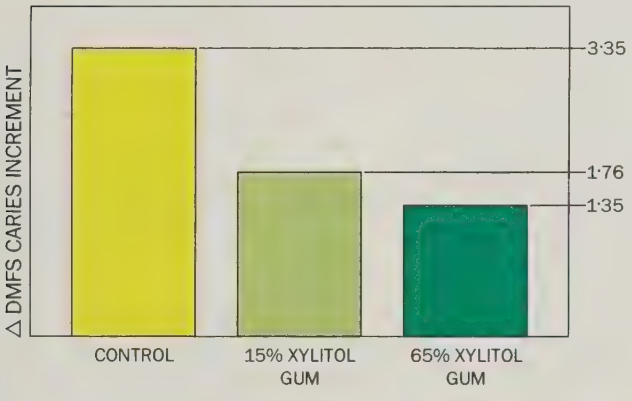
1. Canadian Medical Association. *Perspectives on Health Occupations*. Ottawa: Canadian Medical Association, 1986. 164 p. 1 copy.
2. Murray, J.J., éditeur. *Le bon usage des fluorides pour la santé de l'homme*. Genève: Organisation Mondiale de la santé, 1986. 131 p. 1 copie.
3. Proffit, William R. *Contemporary orthodontics*. St. Louis: C.V. Mosby, 1986. 579 p. 1 copy.



Now, new studies prove that Trident with xylitol helps fight cavities.

Xylitol is a naturally-occurring sweetening agent found in plants, vegetables, even the human body. For years, scientists have suspected that this natural substance may play an active role in cavity prevention. Now, new clinical studies prove it.

Independent trials[1] conducted by international institutions such as the World Health Organization have substantiated existing evidence, gathered through concentrated research over the last ten years, that indicates xylitol cannot be metabolized by decay-causing microflora in the oral cavity.



This one-year study conducted by the Montreal General Hospital and the University of Montreal, Department of Preventive and Community Dentistry, on 433 eight and nine year old Montreal children clearly demonstrates a protective effect of xylitol-containing chewing gum in a school caries preventive programme. (The control group had a normal diet and preventive programme.)

Trident Sugarless Gum, which contains xylitol,[2] is now being recognized as more than just a harmless treat. When used at least twice a day, it has been proven to be an important adjunct to the regular oral hygiene programme of brushing, flossing, rinsing, and having fluoride treatments plus biannual dental check-ups.

Now, you can recommend Trident as an effective way to reduce the threat of acidogenic action after carbohydrate snacking, especially for young, caries-prone patients. And, the great new taste of Trident means that patient compliance is assured.

Trident. More than just a treat.

MORE THAN JUST A TREAT

† Reg. T.M. Warner-Lambert Company, Adams Brands Mfg. Auth. User.

[1]The Finnish Xylitol Study, 1982-1985. The French Polynesian WHO Study, 1979. The WHO Hungarian Study, 1981-1984. The Montreal Chewing Gum Study, 1987. Case studies available upon request.

[2]Trident Peppermint, Cinnamon, Freshmint, and Fruit flavours only.

Book Reviews

NON-CHEW COOKBOOK

J. Randy Wilson

Canadian Hospital Association
Ottawa, Canada 1986
195 pages $18.95

J. Randy Wilson has written the Non-Chew Cookbook after helping his wife cope with difficulties in chewing because of a jaw disorder. Many people suffer the consequences of poor chewing function as a result of temporomandibular joint disorders, difficult-to-fit dentures, periodontal problems, and following surgery for malignancies of the head and neck. Patients with chewing problems often develop poor appetites and lose interest in food. They may be surprised and pleased by the tastiness and variety of recipes in this little spiral bound publication.

Many similar recipes for soups, beverages, main dishes, vegetables and desserts can be found in popular blender cookbooks, but the convenience of this collection should encourage even an apathetic patient. Nutritional guidelines and hints for coping with chewing/swallowing problems are brief but would be helpful to interested professionals and patients. Following each recipe, nutritional analysis per serving provides the content of some nutrients and cholesterol.

Many beverage and dessert recipes recommend the use of ''Equal'' (aspartame) as a sweetener. This reduces the caloric content and the cariogenicity, except in those recipes where honey is used along with the alternate sweetener. Patients with a high caries susceptibility, such as those who have had radiation therapy, should be made aware that honey has the same or greater cariogenic potential as sugar.

The ''Non-Chew Cookbook'', along with support from dental office staff, could make mealtime more enjoyable for many patients.

This book was reviewed by
Nina E. Burgess, BSc (HEc), MEd
Nutritionist, Preventive Department
Faculty of dentistry
University of Toronto

SURGERY OF THE MOUTH AND JAWS

Edited by J.R. Moore

Blackwell Scientific Publications,
Scarborough, 870 pages

This beautifully produced volume of over 850 pages is divided into 12 sections.

In Section 1 — Development of the Face, Mouth and Jaws, Professor Poswillo, in his usual fashion, gives a succinct and authoritative presentation of development of the face and mouth, as well as cranial facial development.

Section 2 entitled ''Facial Disharmony'' is comprised of seven chapters, six of which are authored by Mr. K.F. Moos. A good overview of the surgical management of maxillofacial deformities is presented. This section will be of particular interest to general practitioners of dentistry who wish to be better informed about the correction of facial disharmony in order to give a more informed opinion to their patients. The last chapter in Section 2 dealing with cleft lip and palate is authored by D.A. McGrouther and while the section is complete in its coverage, there are notable absences in the reference section to more recent works by Delaire, Rosenstein, and others.

The Section on Acute and Chronic Infections rising from dental causes is thorough, up to date and will be of particular interest to dentists in general.

Section 4 which deals with Operations on Teeth provides systematic review of the extraction of erupted teeth, unerupted and impacted teeth, special situations and complications arising therefrom. This section offers timely advice for the general practitioner of dentistry who performs operations on teeth either in his office or in the hospital.

The remaining Sections 5 through 12 dealing with Cysts of the Jaws and Mouth, Preprosthetic Surgery, Diseases of the Maxillary Sinus, Diseases of the Temporomandibular Joint, Diseases of the Salivary Glands, Tumours of the Mouth and Jaws, Orofacial Neuropathology, and Postoperative and Intensive Care are directed more to specialty practitioners; however, the general practitioner will find good reading and sound advice in all of these sections.

In summary the book is profusely illustrated, beautifully presented and covers an enormous amount of material. The book is suitable as a reference volume for both specialists and general practitioners of dentistry.

This book was reviewed by
Dr. David S. Precious
Programme Director
Graduate Training Programme
Oral and Maxillofacial Surgery
Dalhousie University, Halifax

MINOR ORAL SURGERY

Geoffrey L. Howe

3rd Edition
Stonebridge Press (Bristol) 1985
428 pp. illust.

In 1966, Geoffrey Howe published the first edition of ''Minor Oral Surgery'', stating in that edition's preface that ''as a general rule, it is usually inadvisable for the general dental practitioner to undertake any surgical procedure which, in his estimation, cannot be completed in thirty minutes under local anaesthesia''. Upon reflecting on the practicality of that statement and realizing, that as a dental student, nobody ever bothered to enrich me (or anyone else in my class, for that matter) with such a piece of eminently common sense, I began to appreciate just how useful and PRACTICAL a text this volume really was. Now, twenty years and six reprints later, a third edition has appeared.

Primarily designed as an atlas of oral surgery, it excels with quality illustrations of those techniques well within the enterprising reaches of the general dentist. Backing up the pictures are concisely-written descriptive paragraphs. However, despite its practicality, certain pictures and prose can lure the overzealous into areas of potential embarrassment, disaster or worse. Blithely directing the surgical closure of an

oro-antral fistula in fifteen lines of print including the suggested implementation of either an intraoral or extraoral antrostomy if needed, should have inspired the author to include an equally descriptive paragraph on what to say and do when the lawyer calls. On the other hand, the suggested management of a fractured tuberosity created during a dental extraction is exemplary, although some comment about the amount of haemorrhage that can accompany this untoward occurrence might forewarn the uninitiated.

The British terminology for certain drugs may confuse some readers and the photographs of some equipment, which is surely outdated even by British standards, supplies some inadvertant humour. With the advent of implant technology and hydroxylapatite augmentation, any further editions of this textbook will require severe reworking of the chapter on preprosthetic surgery. The purists will probably be upset that there are chapters on periodontal and endodontic surgery, but as a surgeon myself, I find their inclusion rather inoffensive.

In summation, here is a book with some bon mots that we all should have heard in school but probably didn't, included among some very strong chapters on "bread and butter" dentoalveolar surgery, a pedestrian chapter on dental infections, a recently antiquated section on preprosthetic surgery and here and there, peppering the terrain for the unsuspecting, a few surgical suggestions equally likely to compound a problem as cure it.

This book was reviewed by
Dr. J.H. Gryfe
an oral surgeon in
Weston, Ontario

ADVANCED RESTORATIVE DENTISTRY EDITION 2

Lloyd Baum & Richard B. McCoy

W.B. Saunders Company
Toronto, Ontario
1894 363 pages

I am not prone to glowing reviews of dental professional tomes, but I am willing to make an exception here. In a sense, this book is what I have always thought a postgraduate technique guide should be. As a tutorial, it might profitably accompany a doctor's orientation to the ADA's *Dentistry Desk Reference* or other reference books for technique and materials.

Each of the twenty chapters in this book covers the basics of an issue, technique, and/or group of materials of significance to current restorative dental practice. Each section includes a good simple review of principles and issues associated with the topics under discussion, summarizes recent research related to the topics, and discusses the practicalities of clinic utilization of the materials or techniques.

Although the book is quite readable throughout, like most detailed professional manuals it would be a bit much for an intensive cover-to-cover reading. It begins with a surprisingly fascinating and relevant chapter on recent research on fluid movements in teeth and how this might relate to choices in restorative materials and techniques; a how-to review of the Gow-Gates mandibular injection; a pot pourri of time-tested and novel approaches to the treatment of extensive gingival lesions; comparisons of pins, slots, grooves, etching, and other modes of retention; expanded uses for visible light-cured resins; enameloplasty; resin-bonded bridges; and the list goes on and on.

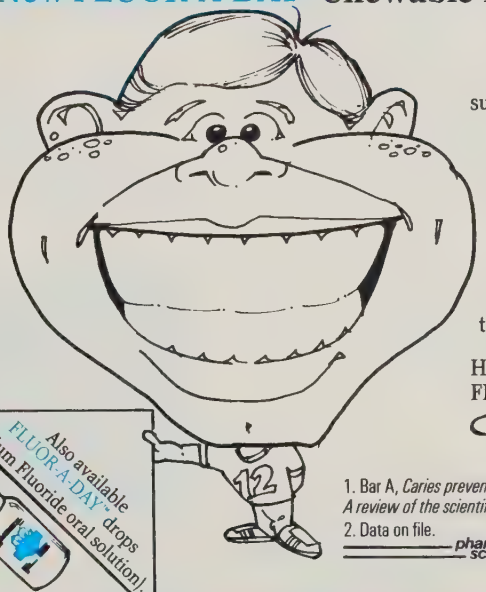
The book does have one dark moment. I never know whether a section extolling the virtues of The Ultimate Restoration (gold foil, of course) is intended to garner guilt in the readers who do not regularly perform gold foil restorations or to re-affirm dentistry's relationship to its "historical imperative." A full chapter of 30 pages is devoted to this topic, and I find such a high proportion hard to justify.

Because most sections include a multitude of suggestions and clinical "tips", I suggest the practitioner might best be advised to have a quick scan through the book to see all of the specific topics addressed in each of the chapters (the table of contents doesn't do this justice), and then return to specific sections as they become clinically relevant for the dentist during the following months.

Fortunately, the text makes very few presumptions about the readers' educational background. For example, in the chapter on base metal alloys, pertinent physical properties are briefly defined before they are used for comparisons between materials. The result is a practical, easily readable clinical guide, a thoughtful digest of the major issues of restorative dentistry today, and as such, it merits high recommendations as a self-teaching tool and thought provoker for the oral health care professional.

This book was reviewed by
Lance M. Rucker, AB, BScD, DDS,
Assistant Professor,
Department of Clinical Dental Sciences,
and Coordinator,
Performance Simulation Laboratory,
The University of British Columbia,
2199 Wesbrook Mall,
Vancouver, B.C. V6T 1Z7

Great Taste With Non-Cariogenic Xylitol Brings Out Their Smile!
New FLUOR-A-DAY™ Chewable Tablets Help Them Keep It.



New FLUOR-A-DAY™ supplements make fluoride supplementation easy.
FLUOR-A-DAY™ contains Sodium Fluoride – a proven cavity fighter; sweetened with Xylitol – the natural, non-fermentable, non-cariogenic sweetener.[1,2]
The raspberry taste makes chewing a FLUOR-A-DAY™ tablet a delight. The unique airplane shape of each FLUOR-A-DAY™ tablet means compliance can be fun.

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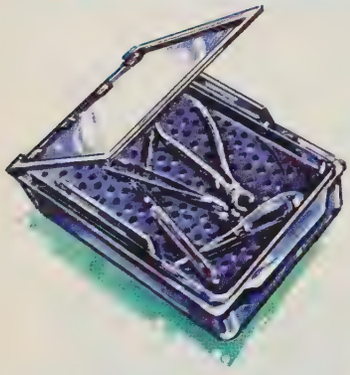

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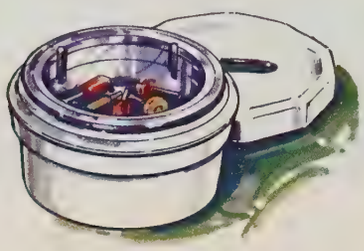

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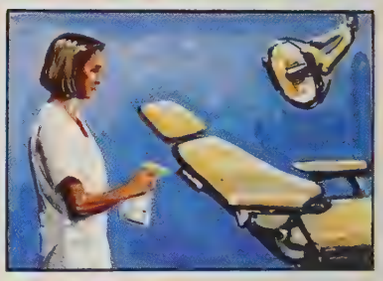

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DENTISTS ATTITUDES TOWARDS AIDS

A SURVEY

J. Hardie, BDS; MSc; FRCD(C)

INTRODUCTION

The Acquired Immunodeficiency Syndrome is a topical, controversial subject. Many health care workers, including dentists, have legitimate concerns regarding treating patients with this disease. A survey of dentists' attitudes towards AIDS was completed to elucidate their specific reservations, and thus develop relevant education programs.

METHOD

A questionnaire was prepared (**Fig. 1**) which sought information on the demographic profile of dentists, their experience of AIDS patients, their concerns regarding AIDS, and their knowledge of the disease. The survey was distributed at the Annual General Meeting of the Ottawa and District Dental Society in April 1987. Approximately 100 dentists attended the meeting, with 33 returning completed questionnaires.

DISCUSSION

1. Demographics — Questions 1-3

The average dentist who completed the questionnaire was a general practitioner with 4-20 years experience, who employed 1 receptionist, 1.5 assistants, and 0.5 hygienist.

2. Experience with AIDS Patients — Questions 4-8

The majority of dentists had not knowingly treated an AIDS patient, although one dentist had refused treatment. The respondents demonstrated a mixed reaction to AIDS patients, expressed by the fact that while the majority (61 per cent) would provide treatment, a significant percentage (48 per cent) would prefer to refer to another colleague after conducting an examination. A small group of dentists (21 per cent) would wish to dismiss or refer AIDS patients without performing an examination.

3. Concerns regarding AIDS — Questions 9-12

Most of the dentists and their staff had reservations regarding this disease. Expressed concerns were:

- Potential transmission of the HI Virus.
- Protection for self, family, staff and patients.
- Adequate sterility in the dental environment.
- Stigma associated with treating AIDS patients.
- Refusal of staff to treat such patients based upon fear and ignorance.
- Honesty of AIDS patients to divulge their medical status.

4. Knowledge of AIDS — Questions 13-15

The modes of transmission of the virus were familiar to the majority of dentists who believed that they had sufficient knowledge of the disease to answer questions posed by

family, staff, and patients. Therefore it is surprising that significant majorities (64 per cent and 61 per cent respectively) were unfamiliar with the general systemic or specific oral signs of the syndrome. Indeed the majority of dentists (61 per cent) believed that they had insufficient knowledge to provide appropriate dental care for AIDS patients. This may be explained by the fact that two-thirds (67 per cent) of the dentists had not, during the last year, attended a continuing education course on AIDS. Their enthusiasm to do so, may be assessed by the fact that the majority (94 per cent) would participate in such a program if it was in their local city, but only 7 (21 per cent) would be prepared to travel any distance for such information.

5. Additional Information — Question 16

The three dentists who responded to this question all suggested that a seminar, conducted by an informed physician and knowledgeable dentist, would be of value.

SUMMARY

The study has demonstrated the complexity of the attitudes harboured by dentists regarding the Acquired Immunodeficiency Syndrome. While the majority of dentists have some knowledge of the disease, many of them have reservations regarding its transmissions within their working environment, have insufficient knowledge to provide appropriate dental care, and are unfamiliar with its specific oral signs and symptoms.

The results of this small survey must not be construed as statistically significant, nevertheless, it is reasonable to assume that the attitudes and concerns expressed by Ottawa dentists would be voiced by colleagues in other parts of Canada.

This study may allow educational programs to be developed which will address specific reservations, and thus allow dentists and their staff to effectively and safely provide proper treatment to patients with AIDS and other infectious diseases.

Acknowledgements: The author wishes to express his gratitude to the President and Executive Committee of the Ottawa Dental Society for their support, and to the members of the Society for their assistance.

Dr. Hardie is Chief, Dept. of Dentistry, Ottawa Civic Hospital.

FIGURE I

AIDS QUESTIONNAIRE

EXPLANATION

To simplify the analysis of the answers, please consider all patients with evidence of HIV (human immunodeficiency virus) infections to be AIDS patients. This will include asymptomatic HIV infected patients, ARC (AIDS related complex) patients, and symptomatic, medically diagnosed AIDS patients.

1. Number of years in practice?
2. Type of practice? General ☐ Specialty ☐
3. No. of auxiliaries? Assistants ☐ Hygienists ☐ Receptionist ☐ Others ☐
4. Are you aware of an AIDS patient (see note above) attending your practice? Yes ☐ No ☐
5. Have you provided dental care to an AIDS patient? Yes ☐ No ☐
6. Have you refused to provide dental care to an AIDS patient? Yes ☐ No ☐
7. If yes to 6, please state reasons.

_____

_____

_____

8. If a patient admits to having AIDS, do you or would you
   - i Routinely provide the appropriate care taking necessary precautions? Yes ☐ No ☐
   - ii Routinely conduct an examination but refer to another colleague for treatment? Yes ☐ No ☐
   - iii Routinely dismiss the patient without an examination or referral? Yes ☐ No ☐
   - iv Routinely refer without an examination or referral? Yes ☐ No ☐
9. Do you have reservations or concerns regarding treating AIDS patients? Yes ☐ No ☐
10. If yes, please list them –

_____

_____

_____

11. Have your staff expressed concerns regarding AIDS patients? Yes ☐ No ☐
12. If yes, please list them if different from # 10 above –
13. Do you believe that you have sufficient knowledge of AIDS to:
    - i appreciate its mode of transmission? Yes ☐ No ☐
    - ii recognize the general systemic signs? Yes ☐ No ☐
    - iii recognize the specific oral signs? Yes ☐ No ☐
    - iv offer AIDS patients appropriate dental care? Yes ☐ No ☐
    - v answer questions on AIDS from:
      - your family? Yes ☐ No ☐
      - your staff? Yes ☐ No ☐
      - non-AIDS patients Yes ☐ No ☐
14. Within the last year have you attended a continuing education course on AIDS? Yes ☐ No ☐
15. Would you attend such a seminar if it was held in
    - Ottawa Yes ☐ No ☐
    - Toronto Yes ☐ No ☐
    - Vancouver Yes ☐ No ☐
16. Please provide additional information pertinent to the purpose of this questionnaire.

_____

_____

_____

_____

_____

_____

_____

FIGURE II

RESULTS

Question 1. *Number of years in practice?*

Years 1 – 10 = 8 dentists
Years 10 – 20 = 11 dentists
Years 20 – 30 = 4 dentists
Years 30 – 40 = 4 dentists
Years 40 plus = 1 dentist
Range 4 – 50 years in practice

Question 2. *Type of practice?*

General Practice = 26 Specialty Practice = 7

Question 3. *Number of Auxiliaries?*

Assistants = 47 (1.4 per dentist)
Receptionists = 35 (1.1 per dentist)
Hygienist = 24.5 (0.7 per dentist)
Others (R.N.'s etc) = (0.2 per dentist)

Question 4. *AIDS patient attending practice?*

Yes = 5 (15 per cent) No = 28 (85 per cent)

Question 5. *Treating AIDS patient?*

Yes = 7 (21 per cent) No = 23 (70 per cent) Don't know = 3 (9 per cent)

Question 6. *Refusal to treat AIDS patient?*

Yes = 1 No = 32

Question 7. *No specific reason for refusal given.*

Question 8. *Approach to AIDS patient?*

i) Yes = 20 (61 per cent)
No = 13 (39 per cent)
ii) Yes = 16 (48 per cent)
No = 15 (45 per cent)
iii) Yes = 1
No = 30 (91 per cent)
iv) Yes = 7 (21 per cent)
No = 24 (73 per cent)

Question 9. *Reservations regarding AIDS?*

Yes = 26 (79 per cent) No = 7 (21 per cent)

Question 10. *List of Concerns?*

- ☐ Spread via blood, saliva to patients, staff and family.
- ☐ Lack of proper sterility in dental office.
- ☐ Reactions of other patients if AIDS patients treated.
- ☐ Length of incubation period.
- ☐ Transmission via aerosols.
- ☐ Honesty of infected individuals.
- ☐ No vaccine or effective treatment.
- ☐ Fearful, ignorant staff.

Question 11. *Reservations expressed by staff?*

Yes = 21 (64 per cent) No = 12 (36 per cent)

Question 12. Specific concerns of staff?

In general, same as listed for Question 10.

Question 13. *Knowledge of AIDS?*

i) Yes = 28 (85 per cent)
No = 5 (15 per cent)
ii) Yes = 12 (36 per cent)
No = 21 (64 per cent)
iii) Yes = 13 (39 per cent)
No = 20 (61 per cent)
iv) Yes = 13 (39 per cent)
No = 20 (61 per cent)
v) Family Yes = 24 (73 per cent)
No = 9 (27 per cent)
Staff Yes = 21 (64 per cent)
No = 12 (36 per cent)
Patients Yes = 22 (67 per cent)
No = 11 (33 per cent)

Question 14. *Course on AIDS?*

Yes = 12 (36 per cent) No = 22 (67 per cent)

Question 15. *Preferred locations of course?*

Ottawa = 31 (94 per cent) Toronto = 5 (15 per cent) Vancouver = 2 (6 per cent)

Question 16. *Additional information?*

Only three responses; all suggesting usefulness of seminar given by dentist and physician.

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HEPATITIS B PREVENTION

THE NEW VACCINE, AND RECENT RECOMMENDATIONS

J. Hardie, BDS, MSc, FRCD(C)

INTRODUCTION

On the 11th of May 1987 the Health Protection Branch of the Federal Government licensed the first recombinant vaccine, Recombivax-HB, for human use. A recent report of the National Advisory Committee on Immunization offers recommendations regarding the use of vaccines in the prevention of hepatitis B. Dentists and their staff are at high risk for exposure to the hepatitis B virus, therefore they should be familiar with the new vaccine, and with the ability of vaccines to prevent the transmission of hepatitis B.

RECOMBIVAX-HB

1. Production: Recombivax-HB is produced by Merck, Sharp and Dohme, the manufacturers of the original hepatitis B vaccine Heptavax-B. The new vaccine is the product of genetic engineering. The gene representing the immunologic portion of the hepatitis B surface antigen is cloned into cells of baker's yeast (Saccharomyces cerevisiae). Cultures of this recombinant yeast strain are grown thus multiplying the volume of surface antigen. The antigen is harvested through a process of yeast cell disruption and purification. The collected hepatitis B surface antigen is prepared in 1.0 ml vials for intra-muscular injection.

2. Blood Products: Recombivax-HB is entirely free of any association with human blood or blood products. Heptavax-B is prepared from the plasma of human carriers of hepatitis B.

3. Dose and Administration: Although the new vaccine has half the strength of Heptavax-B, it induces similar levels of antibody response in more than 90 per cent of healthy individuals. Recombivax-HB is injected into the deltoid muscle in three doses with the second dose being one month after the first, and the third dose six months after the first dose. This is similar to the immunization schedule recommended for Heptavax-B.

4. Responsiveness: The manufacturers state that the ability of the new vaccine to produce effective antibody levels is age dependent assuming that all recipients are healthy. Merck, Sharp and Dohme have released the following response rates for Recombivax-HB.

Children	1-10	years antibody production in 100 per cent
Adults	20-39	years antibody production in 95-98 per cent
Adults	40+	years antibody production in 91 per cent

Comparable response rates for Heptavax-B are

Children	1-10	years antibody production in 100 per cent
Adults	20-49	years antibody production in 92-96 per cent
Adults	50+	years antibody production in 77 per cent

The manufacturers emphasize that there is, at present, insufficient experience with Recombivax-HB to determine for how many years it will provide protection. Thus the need for booster doses has not been determined, which is also the situation with Heptavax-B. Additional comments regarding booster doses will be made later in this report.

5. Adverse Reactions: The new vaccine, similar to the original vaccine, is well tolerated. The most common reaction is a transient irritation at the site of the injection reported by approximately 17 per cent of recipients. Other much less common reactions include: fatigue, weakness, fever, nausea, headache, arthralgia, paresthesia, and upper respiratory tract infection.

6. Cost: There is no difference in cost to the recipient between Recombivax-HB and Heptavax-B.

7. Why a New Vaccine? The new vaccine appears to be as immunologically active as Heptavax-B, is equally well tolerated, and is the same price. The major advantage of Recombivax-HB is that because it is not dependent upon blood products its manufacture is not restricted to an available supply of appropriate human plasma.

HEPATITIS B IMMUNIZATION RECOMMENDATIONS

In June 1987 the National Advisory Committee on Immunization issued certain

recommendations regarding the prevention of hepatitis B infection.

1. **New Vaccine:** The committee recommends the use of either the new vaccine Recombivax-HB or the original vaccine Heptavax-B; but notes that the present Recombivax-HB is not suitable for hemodialysis patients.

2. **Route:** Both vaccines should be injected into the deltoid muscle of children and adults, and into the anterolateral muscle of infants. Individuals who received gluteal injections should have their hepatitis B antibody levels assessed. If the titre of antibody is below the effective level they should receive an additional dose of vaccine at the deltoid site. Routine revaccination is not suggested for persons who fail to respond to the deltoid route of administration.

3. **Booster Doses:** The need for and the timing of booster doses for both vaccines have yet to be determined, but there is sufficient evidence to suggest that the initial vaccination (3 doses) may not give life-long immunity to those at high risk. Therefore, the committee has recommended that a *booster dose of vaccine be given 5 years after completion of the initial course of immunization to those who continue to be exposed to hepatitis B virus*. This recommendation applies to dentists and their staff who are continuing in active practice.

4. **High Risk:** The committee lists individuals who are exposed to blood, blood products and body secretions and are therefore at high risk of acquiring the hepatitis B virus infection (see **Table 1**). Such individuals (by reason of their profession, life-style, or medical treatment) are at high risk and so are their sexual and household partners.

The committee recommends that high risk individuals receive either of the hepatitis B vaccines as a pre-exposure prophylaxis. This implies that dentists and their staff should be immunized against hepatitis B. Dentists should appreciate that all persons belonging to the high risk group have the potential to spread hepatitis B virus within the dental office environment unless appropriate precautions are adopted.

5. **"Needlestick" or Mucosal Exposure:** The committee has revised its previous recommendations regarding the procedures to be followed if an individual suffers a percutaneous (needlestick) or mucosal exposure to the blood or body fluids of a hepatitis B patient. For obvious reasons dentists should be familiar with these protocols (see **Table 2**).

Dentists and their staff are at high risk for such percutaneous or mucosal exposures, therefore it would be logical for them to have their hepatitis B antibody levels determined 4 to 6 months after the final dose of vaccine.

6. **Pregnancy:** The committee states that since the hepatitis B vaccines are inactivated viruses the risk to the fetus should be negligible. Therefore pregnancy should not be considered a contraindication to the use of either vaccine in females for whom immunization is otherwise recommended. To prevent hepatitis B infection in infants the committee recommends that *where demographic and prevalence data warrant, all pregnant women should be routinely tested for the presence of the hepatitis B surface antigen*. If routine screening is not performed then every effort should be made to detect carriers in certain categories of pregnant women. Included in this list are health care workers with frequent occupational exposure to blood or blood products. This implies that pregnant female dentists or dental staff should have their hepatitis B surface antigen status determined during pregnancy or at the time of delivery.

TABLE 1

List of High Risk Groups

- Operating Room Personnel
- Emergency Room and Ambulance Staff
- I.V. Teams
- Laboratory Personnel
- Blood Bank Staff
- Oncology, Nephrology and Hepatology Unit Staff
- Pathologists, Morgue Staff
- Surgeons
- Dentists, Dental Assistants, Dental Hygienists
- Medical, Dental, Nursing Students
- Residents, Staff of Mental Institutions
- Homosexual Males
- Illicit Injectable Drug Users
- Embalmers
- Hemodialysis Patients
- Recipients of Blood or Blood Products (Factor VIII or IX)
- Infants Born to Hepatitis B Surface Antigen Positive Mothers

TABLE 2

Procedure for Hepatitis B Exposures

1. It is necessary to determine if the person receiving the exposure has received a full and properly administered course of hepatitis B vaccine, and/or whether the antibody level has been determined previously.
2. If the person has been shown to have an adequate level of antibody within the preceding 5 years, a single booster dose of vaccine is recommended.
3. If the person was unvaccinated or vaccinated but the antibody levels have not been determined during the last five years, two options are recommended.

(a) Assumes that the antibody level to the hepatitis B virus can be determined without delay. If the person has an adequate antibody level no treatment is necessary. If the person does not have an adequate antibody level, an injection of Hepatitis B Immunoglobin should be given and appropriate doses of vaccine to complete the full course of immunization; or a booster if a full course has been given previously.

(b) Assumes that the antibody level cannot be determined without delay. The person is assumed to be at risk and Hepatitis B Immunoglobin is given and appropriate doses of vaccine to complete a full course; or Hepatitis B Immunoglobin and a booster dose of the vaccine if a full course of immunization was given previously.

SUMMARY

Recombivax-HB is a new hepatitis B vaccine produced by sophisticated genetic engineering. Its safety, effectiveness and cost compare favourably with the original vaccine Heptavax-B.

The recent report from the National Advisory Committee on Immunization contains recommendations which will assist in curtailing the transmission of hepatitis B, and are of significance to dentists, their families, staff, and patients.

ACKNOWLEDGEMENTS

The author wishes to express his gratitude to Merck, Sharp and Dohme for supplying information on Recombivax-HB, and to Dr. S.E. Acres, Editor, Canadian Diseases Weekly Report, for a copy of the June 6, 1987 report by the National Advisory Committee on Immunization.

Requests for reprints to:

Dr. J. Hardie, Chief, Department of Dentistry, Ottawa Civic Hospital, 1053 Carling Avenue, Ottawa, Ontario, K1Y 4E9.

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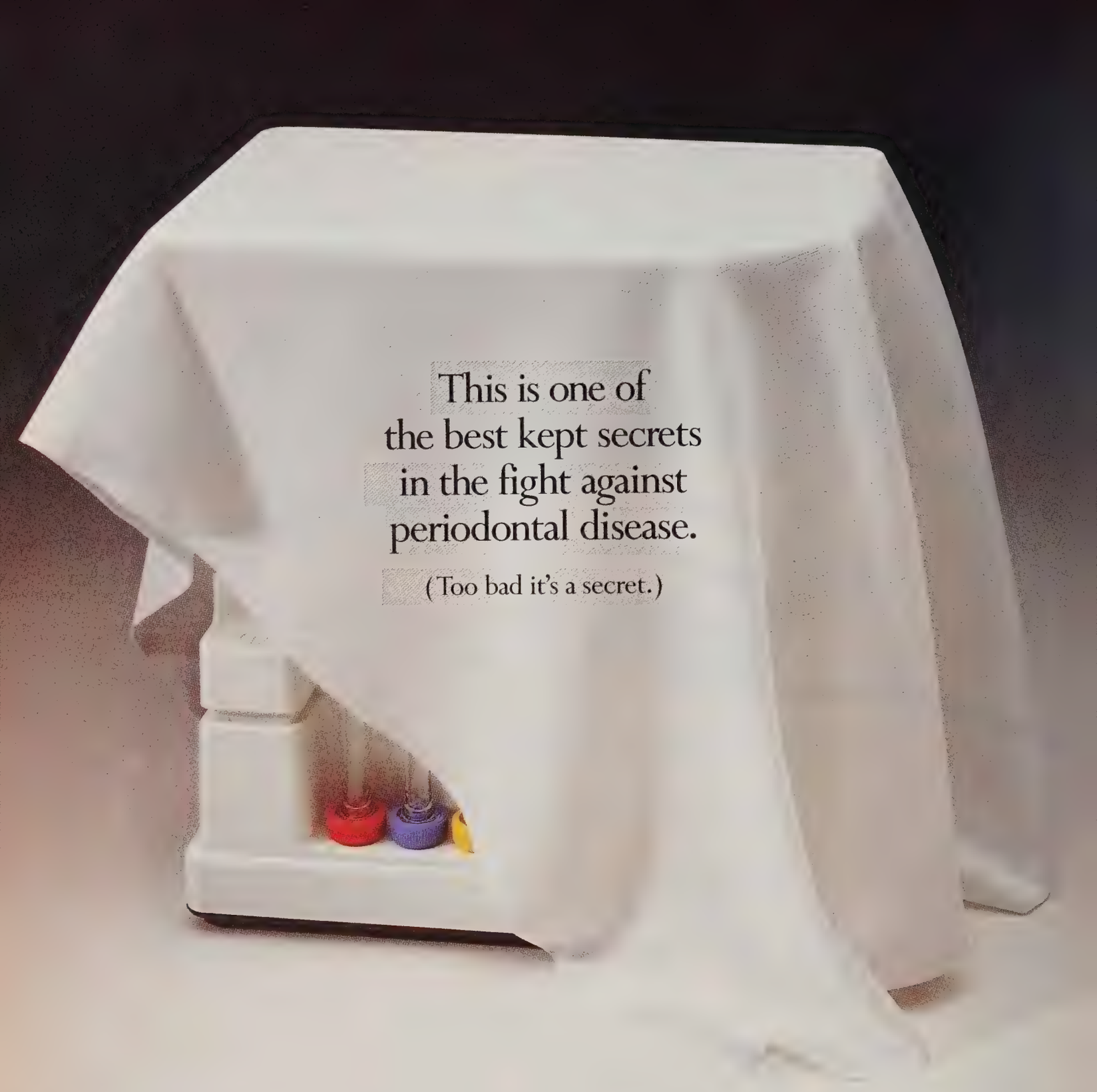

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[1]Eakle WS, Ford C, Boyd RL: Depth of Penetration in periodontal pockets with oral irrigation, J. Clin. Periodontol 1986; 13:39-44.

LES MUTILATIONS DENTAIRES DANS LES CIVILISATIONS EXOTIQUES ET LEUR SIGNIFICATION

*Dominique Migraine**
DrCD

RÉSUMÉ

La mutilation dentaire fait partie des rites d'initiation dans certains pays exotiques, depuis la préhistoire. Une description des différents types de mutilation est donnée d'après la géographie. Différentes interprétations de leur signification sont expliquées. Pour les peuples primitifs, la dent est une réserve de vie et l'initié peut prendre par son intermédiaire une option pour une vie ultérieure. Des lois gouvernementales interdisent désormais presque partout ces coutumes, mais on peut occasionnellement encore rencontrer des patients qui en ont été les témoins.

ABSTRACT

Since prehistoric times dental mutilations have been part of initiation rites in certain exotic countries. A description of various forms of mutilation is given according to geography and different interpretations of their meaning are given. In primitive nations a tooth is seen as a life reserve and the initiate can use it as an option for an ulterior life. Government laws nowadays prohibit such customs everywhere. Occasionally however, we meet patients who have witnessed them.

**Article de revue rédigé dans le cadre de la spécialisation en pédodontie. Faculté de Médecine dentaire Université de Montréal et Service dentaire de l'hôpital Ste-Justine.*

INTRODUCTION

Dans les sociétés ''primitives'', la coutume exige que le jeune enfant, fille ou garçon, reste auprès de sa mère jusqu'à l'âge de l'initiation. Imprégné jusqu'alors de la ''substance féminine'', il quitte à ce moment la nature ''mixte'' pour sa nature mâle ou femelle. Une division obligatoire s'établit entre les sexes, qui peut aller jusqu'à l'observation de tabous très stricts vis-à-vis de toute personne du sexe opposé plus âgée. Ainsi, un jeune initié ne peut plus adresser la parole même à sa soeur, si elle est son aînée.

L'initiation a lieu au moment de la puberté. Elle peut être l'occasion de changer de nom, que ce soit de nom officiel ou de sobriquet. Les révélations nécessaires à cette mutation sont fournies à l'adolescent par le biais des rites dont la mutilation dentaire peut occasionnellement faire partie.

I – LA MUTILATION DENTAIRE. DESCRIPTION ET INTERPRÉTATION

La mutilation implique une violation de l'intégrité du corps qui va à l'encontre des principes moraux et traditionnels de nos pays à moins que le milieu médical ne l'ait justifiée. Elle peut être rituelle, et vise à insuffler à l'initié une force corporelle et un pouvoir particulier. Elle est alors dictée par la coutume tribale et la mutilation dentaire fait partie des rites. Elle est en quelque sorte une variante de l'automutilation. En effet, l'homme tribal est intimement intégré à son clan – sa tribu – qui représente sa conscience et cristallise ses croyances et sa religion.

Au moment de son initiation, l'adolescent se voit mutilé par le clan des anciens, et c'est comme si le clan mutilait son propre corps. La mutilation rituelle devient ainsi une sorte d'automutilation et le ''patient'' n'est plus considéré comme individu, mais comme partie inhérente du clan ou de la tribu[1].

Mutilations dentaires préhistoriques ou anciennes

À l'époque néolithique, les adultes de la cordillère annamitique avaient les quatre

incisives latérales absentes. Les crânes des hommes de l'âge de fer retrouvés dans la grotte de la plaine des Jarres étaient privés de leurs incisives centrales supérieures, selon Fromaget et Saurin (cités par Huard et Leriche[2]). D'autre part, sur les crânes de Poegel, on a pu observer que les quatre incisives supérieures étaient évidées au niveau des faces proximales terminées par une sorte d'arête tranchante[2].

Au Japon, au cours du Moyen Âge, les incisives et les canines étaient souvent extraites, ainsi que parfois les premières prémolaires, au niveau du maxillaire supérieur. Les incisives pouvaient aussi être conservées, mais la forme de la couronne était alors modifiée et divisée en plusieurs pointes[3].

Mutilations dentaires contemporaines

De nombreux auteurs ont étudié les mutilations dentaires chez divers peuples.

Ce sont les incisives qui sont le plus souvent amputées. Tantôt elles sont purement et simplement extraites, comme au Ghana, au Kouei-Tchéou, ou en Australie. Tantôt elles sont abrasées jusqu'à la gencive, ou limées en pointe, en rond ou en fourche (comme en Haute Volta[4], au Soudan, à Malabar, en Insulinde, aux Philippines), ou cannelées horizontalement, verticalement ou circulairement.

Parfois, cependant, certaines dents ne sont pas limées mais fracturées selon un angle particulier, comme en Nouvelle Calédonie, aux Nouvelles Hébrides et aux îles Hawaï. Autre variante esthétique que nous détaillerons plus tard, à Bornéo, les incisives de l'initié sont percées avec un trépan d'acier, et les cavités sont comblées par des incrustations de cuivre souvent en forme d'étoiles[2].

Ces mutilations sont exécutées au ciseau et au maillet, comme en Australie, ou avec des instruments achetés dans les quincailleries voisines de la tribu, ou avec de la pierre ponce[5]. D'autres tribus utilisent des silex à arêtes vives avec lesquels elles ébrèchent les dents[6].

Quelques interprétations de ces coutumes

On se perd encore en conjectures sur l'interprétation de ces coutumes. Les mutilations dentaires pourraient rendre l'initié plus attirant pour le sexe opposé, ou au contraire plus rébarbatif pour l'ennemi à vaincre. Elles pourraient aussi intervenir dans l'élaboration du langage. Le Damera, par exemple, qui est un dialecte d'Afrique du Sud, ne se parlerait proprement qu'après l'avulsion des dents antérieures qui en permette le zézaiement. L'extraction des incisives était aussi pratiquée à titre préventif pour nourrir les patients qui risquaient d'être atteints du tétanos, maladie commune dans les pays exotiques[6].

La mutilation dentaire est aussi un respect des coutumes ancestrales remontant parfois au néolithique[6]. Elle fait partie de la cérémonie d'initiation qui permet à l'enfant d'être admis dans la société adulte. Chez les Ibos et les Awka du Nigéria, il n'était pas permis aux femmes d'être fécondées tant que leurs dents n'avaient pas été limées[6]. On a avancé aussi que cette mutilation voulait mimer la représentation de la mort et de la résurrection du novice[7].

Protocole d'une mutilation dentaire dans divers pays exotiques

Australie centrale[6]

Les mutilations des dents font l'objet d'une cérémonie très spéciale, puisque c'est le noyau des rites d'initiation dans les tribus de l'Est et du Sud-Est de l'Australie. Cependant, ces rites n'ont pas cours dans le centre de l'Australie où ils sont remplacés par la circoncision vers l'âge de 14 à 16 ans. La mutilation dentaire se limite à l'incisive supérieure droite. Elle s'accompagne cependant d'autres contraintes physiques: percement de la cloison nasale et production sur le thorax de cicatrices chéloïdes décoratives.

Moyenne volta – soudan méridional, population du Lobi[4]

Ces populations du centre de la boucle de Niger entre le 9^{e} et 11^{e} degré de latitude Nord, pratiquent tantôt une association de mutilations dentaires et labiales, tantôt des mutilations dentaires seules. Les mutilations dentaires sont pratiquées sur les hommes et les femmes, et les mutilations labiales sont réservées aux femmes. Les incisives supérieures et inférieures sont taillées en pointe, mais très souvent les incisives supérieures sont seules à être amputées.

La technique est la suivante. Le patient se rince la bouche avec de l'eau alcaline filtrée sur les cendres d'une herbe locale. Il s'allonge ensuite sur le dos, pose sa tête sur la cuisse gauche de l'opérateur assis par terre et qui, (s'il est droitier), tient un ciseau de fer de 5 à 8 cms de long dans sa main gauche et dans sa main droite une masse de fer allongée, le marteau habituel des forgerons ou tout autre corps dur qui puisse frapper le ciseau. En maniant habilement le tranchant du ciseau, l'opérateur en frappe la tête à coups délicats et imprime ainsi à la dent la forme qu'il désire. Il ne lime jamais les dents. Le patient souffre beaucoup malgré la dextérité de l'opérateur et ses gencives saignent abondamment.

La sculpture terminée, le sujet se remplit la bouche d'eau et conserve celle-ci jusqu'à ce qu'il rentre chez lui. Il cherche alors la femme de son frère et recrache cette eau sur elle. S'il est fils unique ou si son frère est célibataire, il envoie l'eau sur l'un des piliers de la terrasse, mais ne doit en aucun cas en humecter le sol. Le jour de l'opération et les trois jours suivants, les femmes de la maison préparent un gâteau de miel très compact qu'elles laissent durcir. Le patient en coupe des morceaux dont il se masse les gencives.

Les opérateurs ne sont pas choisis dans une catégorie particulière. Quiconque sent naître en lui la vocation peut, d'observateur, devenir apprenti puis spécialiste sans formalités spéciales.

Borneo[2]

Si à Formose, les jeunes gens et les jeunes filles ont les deux canines supérieures extraites[2], à Bornéo les indigènes arborent au niveau des incisives des travaux bien plus sophistiqués. En effet, à la puberté, on perce les incisives de l'initié avec un trépan d'acier, en pénétrant dans la cavité pulpaire. Le patient se tord de douleurs, s'agrippe à ce qui lui tombe sous la main, si violemment que le sang sourd sous ses ongles, mais ne se plaint jamais. Les cavités sont ensuite obturées avec des blocs de cuivre en étoile ou de forme diverse. Ces blocs sont amovibles et le patient peut les déposer lui même. Il est évident que la pulpe ne résiste pas à ce traitement et meurt. On taille alors la dent en pointe et on la noircit avec une pâte, le ''tumai'', préparée à partir d'ardoise broyée, mélangée à de l'eau et à une cendre d'un bois riche en tannin. Ce vernis, renouvelé toutes les semaines, laisse sur la dent un film de laque noir et brillant.

Indochine[2]

Les Moïs allient aussi la pratique des mutilations à celle du laquage des dents, au moment de la puberté. L'opération du limage dure de 6 à 15 jours. Elle se pratique à l'aide de pierre ponce récoltée dans certains cours d'eau. On prépare les incisives inférieures en forme de triangle ou de dents de chat, et celles du maxillaire supérieur en demi cercle. Ces dernières peuvent être aussi complètement abrasées.

Les Pnongs traitent les blocs incisivo-canins supérieurs et inférieurs chez les filles et les garçons de 10 à 11 ans comme les arbres d'une forêt. On pose un couteau tranchant sur la dent qu'on veut briser et on frappe d'un coup sec à l'aide d'un autre couteau. La racine est mobilisée, la gencive saigne, mais la couronne est abattue. Pour cautériser la gencive et arrêter l'hémorragie, l'initié suce du gros sel.

Les Mnongs sont opérés vers 14 ou 15 ans, par l'un des cinq ou six hommes

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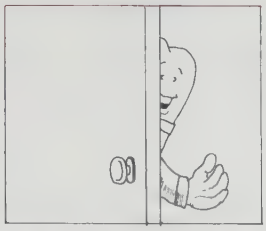
EXAN

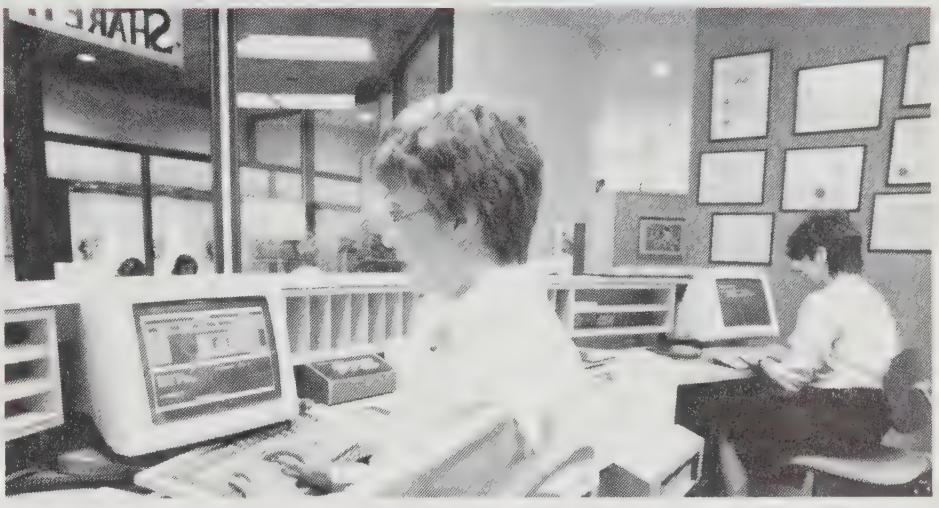
November 1987

Automation and your dental practice



OPEN WIDE

Computer supports philosophy of retail mall practice



In Oakville's busy Trafalgar Village Mall, on the shores of Lake Ontario about 40 km west of Toronto, you can find the successful relaxed practice of Dr. Ken Hune and his three associates, Drs. Lesley Cutter and Kevin Wardle, both general practitioners, and Dr. Karen McPherson, like Ken Hune, a paedodontist.

Dr. Hune professes a special philosophy in this practice which has mixed specializations. He wants all 16 members, eight primary care providers and eight support staff, to develop their own expertise and interest, and to perfect their skills.

The practice itself is inviting, with an interesting self-discovery area for patients located right by the reception area mounted in what is called the "Good Health Room." As Dr. Hune says, "You can see what we do from the mall, and you can walk up and down outside. To make your commitment, you still have to open the glass door and walk in."

A believer from his first exposure to automation, Dr. Hune bought his first computer system nearly four years ago. "But I could see that my supplier was not spending time and energy in software development. Their promises were not forthcoming, and I had my own ideas of what I wanted."

Dr. Hune walked away from his first system, two years and $40,000 later. But in August last year he installed an EXAN Dental Practice Management System which has brought his expectations much closer to reality.

"I wanted to correlate more information with patients, and to help us know each other better. We practice 'Co-Diagnosis' which entails patients knowing more and being part of the decision-making process. We help them choose a treatment program that is best for them. The only way to personalize this process and deliver all the information is with a computer."

"Our system is used primarily to give information. The patients we have already are more important than those we don't have yet. The kind of information we need to have about a patient includes their needs and preferences, the services sought, and the level of care desired, sources of referral, type of referral, and whether a second opinion is requested. We need to know all this instantaneously, in order to help the patient become part of the process."

"This certainly is a more time-consuming approach than dentists making all their own decisions. It is made even more difficult by being a four-dentist practice, with each being independent of the other, but with a large support team that overlaps in various areas. Fortunately we all have the same mandate."

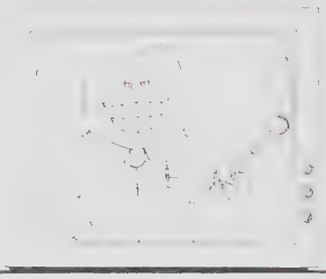
How is the computer system used? "All dentists feed in predeterminations and treatment plans at chairside. We can even work out payment plans for orthodontic work," explains Dr. Hune.

"Our training was very straightforward. We were already used to the computer, and even our changeover was completed without any downtime — almost overnight. By changing to EXAN we got a more user-friendly system. We especially like the tickler system which helps us with recalls, the forms for predetermination and pretreatments, and the patient scheduling which we are about to add."

What features are there which are not yet used? "Perhaps the word processing, which we will soon start using for the large number of letters we send out. The computer tells us which letters to send, and to whom, but we do not use it as yet to create them.

"The computer pays for itself because it lets us work better, gives us more information, and allows people to get more information from us. Our next step is to convert to EXAN Technologies' new "DENTEX" software with its patient scheduling capabilities. We've already been through the training and our staff are ready." "Finally," says Dr. Hune, "the front desk team won't even have to open up charts to schedule appointments. It will all be done on the screen, instantaneously, from the patient's records or from treatment plans at the chairside."

EXPERTVIEW



Dr. Murray Chantler

For this issue's 'EXPERTVIEW' we interviewed Dr. Murray Chantler, a dentist practising in Etobicoke, Ontario, who is rapidly making a name for himself as Canada's 'Ralph Nader of Dental Automation'... Perhaps we should explain...

It's not easy to characterize Murray Chantler. He's not exactly champion of the underdog... neither is he embarked on a mission which is going to make him untold riches.

Simply, he believes that without someone to do some homework for them, his fellow dentists risk making serious, costly, mistakes in their gradual shift to computerized practices. We talked to Dr. Chantler about his recent survey of dentists who have automated, and the benefits of computerization as he sees them.

His practice specializes in restorative crown and bridge work, and he operates with one associate and two hygienists in a modern office tower in Etobicoke, Ontario, a suburb of Toronto. He moved here six years ago from a retail mall practice.

"My interest in automation started at the time of the move," says Dr. Chantler. "I attended a seminar at the New York State Academy, where I heard a speaker named Bob Bloom talk about computerization. I ended up bringing Bob, who was also a dentist, up to Toronto to help me Canadianize his own system. We had to adapt several elements, for example, fee codes.

"It worked reasonably well, until about eighteen months ago I realized that it was badly outdated. I started looking at replacement systems, and in my view 90% of them were also outdated. I thought there had to be some way to help dentists who were at the mercy of the computer companies.

The Chantler Survey

So what could Dr. Chantler do to help? This is how he describes his idea: "If we can develop a database using the experiences of the dentists who've had problems, what their problems are, which systems should not be used, and which systems are performing well, then we can be of some help."

How could this data be gleaned? "We looked at how we could build it by ourselves. I went round and looked at systems from many different manufacturers, but had difficulty in having detailed reviews published because they spelled out the pros and cons of specific programs. During this period I tested one system by entering procedures with obvious mistakes such as the wrong code and wrong tooth numbers. A computer should reject this, but in this case it didn't."

"After the survey we found that we did not have enough information to rank different systems. We still need to expand the database, and we need greater sampling. I would like to have something where a dentist can phone in about a package he's thinking of buying, and we can answer how many people use it, and what their experience has been. We can refer them to users in their area who have similar systems."

The Benefits of Automation

Dr. Chantler has some clear ideas about what a dentist has the right to expect. "Unless you put in a totally integrated system, you don't really need a computer at all, because all you're doing is replacing a clerk. Unless the accounts, treatments and scheduling are tied in to each other and you can do the scans you need to, you haven't really got anywhere. He speaks from experience. As part of his survey he tested leading systems in his own practice with several independent experts in attendance.

Where next? "I feel that the database can be more helpful if we find out more about who is on which system and how they feel about each one. Perhaps the readers of this newsletter can help."

If you'd like to share your experiences with Dr. Chantler, write or call him at Shipp Centre, 3300 Bloor St. West, Suite 2220, East Tower, Toronto M8X 2X3 (416) 231-1100.

WHISTLER/ BLACKCOMB

Book now for the ultimate ski week

April may seem like a long time away, but when you plan to ski at one of North America's finest locations, you have to book early.

For those of you who haven't contacted us yet about the Second Annual EXAN Whistler/ Blackcomb SKI-COMPUTER Week, don't delay. We're scheduled for April 8th-15th 1988 — a great time of year for skiing.

We've negotiated some really excellent package rates — $800 per person (double occupancy) includes airfare, accommodation, ski tickets, ground transportation and your fee for the seminar.

To make a reservation, or for more information, call our toll-free number 1-800-663-6228 (Western Canada) or 1-800-268-3126 (Eastern Canada).

SMART TALK

EXAN en français

Francophone dentists now have full access to EXAN Technologies' new "DENTEX" Management system with release of French language software.
For details contact J.P. Germaine at our Montreal office (514) 487-3373.

50th Winter Clinic

The Academy of Dentistry will be holding its 50th Annual Winter Clinic at the Metropolitan Toronto Convention Centre, November 26th, 1987. For more information, contact the Academy at 234 St. George St., Toronto, M5R 2P2 (416) 967-5649.

OMER REED

Today's Practice of the Future

(Continued from last issue)

The 'human touch' is the keystone. "After wasting money on patient education, we find that people don't come because they understand — they come because they feel understood," Dr. Reed said.

By target marketing those patients you want to serve, dentists can start to shape the kind of practice they want. Once this value is in place, the function of the office can evolve to create the appropriate form. The appropriate form for Dr. Reed, based on his philosophy of effective care, is frontdesklessness. Dr. Reed and his staff have been practicing frontdeskless for over two years, making the concept he pioneered a reality. "You have to fit the environment around the objectives and values of the people," said Dr. Reed.

The new generation of computers in dentistry makes possible the goal of no front desk barrier between you and your patients. Patient files in your data base can be sifted and purged according to the practice's criteria in target marketing. Patient scheduling software can then streamline the practice to coordinate the most efficient use of the space. Computer data can be analysed afterward to make sure your team is on track, to free up time for humanizing your interactions with patients and to allow you to maintain followups.

For example, Dr. Reed said that assistants can be scheduled to greet every patient visiting your frontdeskless office. The assistant establishes a personal contact, visits the office's juice bar and remains nearby throughout the visit. While the patient is getting comfortable, another assistant is updating the patient's file at a quiet workstation to have the information ready for the dentist. Files are updated at chairside and the bill is prepared by the time the patient returns to the reception area.

This "high tech, high touch" approach is calmer for the patient, more efficient in recordkeeping and accounting, and demonstrates true concern for the patient's wellbeing. More extensive data also provides instant rapport with the patient's history and values. "It assures long-term loyalty," Dr. Reed noted.

"The computer — appropriately selected and installed — will without any question recapture over 100% of its cost in the first 12 months," Dr. Reed said. By the year 2000, further revolutions will make computers even more essential for the private practitioner. Computers allow everyone to analyse data, but smaller practices can survive and thrive against large competitors by reacting more quickly to change. "The strategic challenge is to have warm, caring, gifted entrepreneurs in practice with access to computers that will optimize their potential," Dr. Reed concluded.

Listen to your future

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ONE BYTE AT A TIME

Customize your practice management with modular automation

EXAN Technologies Incorporated is pleased to announce the availability of "DENTEX" – a completely new modularized Dental Practice Management system. This new system, developed from the ground up, is comprised of separate, but fully integratable, software modules which allow dentists the option of computerizing their practices one step at a time.

The idea behind this new software is quite simple. Dentists can choose to automate their practice with the activity that is most important to them, or with which they feel most comfortable — without having to commit to the complete system.

The new system's modules are extremely powerful, and have been developed with the assistance of study groups of dentists across Canada to ensure that they work 'in practice'. They are used in conjunction with the "DENTEX" Basic System, which includes functions such as: Patient Data, Treatment Processing, Payment Processing, Health Alerts, Accounts Receivable, Referral Data and Report Generating.

Practice Building: All your client data is organized to make both maintenance of current patients and expansion of the practice easier. Scanning is a feature that allows you to pull out of your files patient information according to any criteria you choose. You can interface this module with scheduling and word processing to get a fully automated marketing system.

Scheduler: Everything in a dental office seems to revolve around scheduling patient appointments, and with this in mind we are offering some remarkable advances over what was previously available.

- Appointments can be accessed by several different people at the same time.

- You can search for a suitable appointment by day, week, hour, dentist, or a combination of the above.

- Each patient's account, charts, insurance, health data and demographics can be checked on screen at time of scheduling

- Scheduling integrates fully with patient treatment, recalls and database scanning. This allows a quick, easy, one-operation booking of an appointment.

- You can tie recalls and confirmations in with your Practice Building module for an ultra-efficient system.

Insurance Subsystem: Setting up and processing insurance claims for patients is fully automatic with this module. By accessing existing employer dental package and insurance company information, new patients can be added using only a few key strokes. The system generates the insurance claim form and instantly calculates the patient portion. This often allows immediate collection.

Word Processing: Your patients need information, and the more you communicate with them, the better your relationship will be. Imagine never having to type the same letter twice. This module allows you to build a library of your own standard letters, select the recipients, match additional information like statements, and then produce correspondence with just a few key strokes. With the laser technology available, you can even design your own letterhead and standard forms without any outside printing.

General Ledger: This easy to use general ledger has been praised by accounting firms for its thoroughness and good audit trail.

Available Soon:
Revenue Distribution: Many practices pay producers a varying percentage of their receipts. These calculations used to be time-consuming, but the new module allows the doctor instant, accurate, revenue splitting on hygienists, personal clients, and partners' clients, taking into consideration multiple factors.

Together or separately, these modules offer dentists the option of tailor-made automation — in a very flexible, efficient, format.

Other modules to become available during 1988 include payroll, accounts payable, and inventory.

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"The EXAN Dentist — ready for the next generation."

du village capables d'intervenir. Le patient est couché sur un bas-flanc de la case et maintient lui-même un écarteur en bois à section ronde ou carrée. À l'aide d'une scie en fer forgé, les couronnes des incisives supérieures sont décapitées presque au collet. La plaie dentinaire est ensuite limée et poncée avec une pierre plate en forme de losange. Certains sujets se font aussi limer les dents de la mâchoire inférieure en forme de cône. L'opération dure en tout une demi-heure, puis le patient se rince la bouche avec de l'eau chaude salée et pimentée. Le patient a un jour de congé pour se concentrer sur sa douleur. Le lendemain, il reprend ses occupations.

Une variante de la technique signale l'emploi d'une pierre schisteuse pour la finition du travail d'un coupe-coupe. C'est le patient qui se traite alors lui-même, sans marteau ni ciseau. Les Mnongs sont aussi des adeptes du laquage dentaire.

Si les femmes subissent aussi la mutilation dentaire vers l'âge de 12 ans, elles ont cependant elles aussi le libre choix de la date. Cela en faisait-il des femmes libérées avant la lettre?

II – ESSAI D'INTERPRÉTATION DES COUTUMES DE MUTILATION DENTAIRE

La dent est considérée comme une partie vitale de l'homme. Lorsqu'elle est sacrifiée, elle peut alors lui assurer une autre vie après la mort. Comparée à la nature putrescible du reste du corps, la résistance de la dent est peut-être une raison suffisante pour expliquer qu'elle ait été choisie comme symbole d'immortalité.

Tout d'abord, on croit que la dent extraite reste en connexion intime avec l'homme dont elle provient.

Chez quelques tribus australiennes de Victoria, la mère choisit un jeune eucalyptus et inserre la dent de son fils sous l'écorce, à la fourche de deux des plus hauts rameaux. L'arbre est ensuite considéré comme sacré. L'intéressé lui-même ignore où sa dent a été déposée, et seulement quelques membres de la tribu le savent. S'il meurt, l'arbre est brûlé. La vie de l'homme et celle de l'arbre sont ainsi indissolublement liées.

Dans certaines tribus d'Afrique centrale, la dent extraite est jetée au loin, là où, selon la légende, la mère de tous les hommes a campé dans des temps éloignés appelés ''alcheringa''[8].

L'interprétation des mutilations dentaires varie suivant plusieurs concepts.

1 – L'initiation

La mutilation dentaire fait partie intégrante de l'initiation. Celle-ci sous-entend l'initiation sexuelle impliquée dans l'évolution religieuse de l'homme. La vie des peuplades où se pratique la mutilation dentaire est dominée par l'existence des cérémonies initiatiques comme l'explique l'histoire religieuse de la haute antiquité. À des dates fixées par la coutume, se pratique dans ces tribus une liturgie de réglementation et de recréation qui intègre les êtres nouveaux dans le groupe social.

Le secret principal qu'apprennent les néophytes est la présence d'un monde d'énergie surnaturelle enveloppant l'univers physique. L'initié est mis en contact avec le monde supérieur par l'intermédiaire d'un ancêtre, d'un héros, d'un dieu, ou d'un totem auxquels les rites les unissent ou même les identifient.

Actuellement, nous retrouvons dans nos sociétés chrétiennes, musulmanes ou dans les autres sociétés issues de religions révélées, des initiations suivant les classes d'âge. La communion des chrétiens, par exemple, avec ses cortèges d'adolescentes et d'adolescents représente ce qui se passait il y a 4 ou 5 000 ans, et ce qui se passe encore dans certaines tribus.

La grande différence entre les sociétés primitives et les sociétés chrétiennes est l'absence de sacralisation des sexes au cours de l'initiation chrétienne. L'initiation de l'adolescent de certaines tribus exotiques est en effet couronnée par l'initiation sexuelle qui est elle-même définie par la sacralisation des sexes.

Les coutumes de ces peuplades ne peuvent s'expliquer qu'avec des références historiques. Les faits actuels découlent directement en effet des faits anciens. Ainsi, les mutilations dentaires encore pratiquées dans certaines régions pourraient être le prolongement de pratiques anciennes qui ont survécu. Elles peuvent faire partie intégrante des différentes épreuves que subissent les initiés au cours de la cérémonie d'initiation qui leur ouvre le monde des adultes. Ou bien, elles composent exclusivement l'initiation, bien que cette éventualité soit relativement exceptionnelle[9]. En effet, le plus souvent, le rite d'initiation n'est qu'un aspect de la société étudiée et doit être intégré à d'autres pratiques. La mutilation dentaire n'est qu'une parcelle du rite d'initiation, le rite d'initiation n'étant qu'une parcelle de la pratique religieuse du sujet.

L'homme des sociétés ''exotiques'' est un ''homo religiosus'' qui fait lui-même sa recherche sur lui-même. Dans nos sociétés ''civilisées'' ''l'homo religiosus'' a cédé la place, non à ''l'homo faber'' mais à ''l'homo economicus'': celui qui attend d'être payé pour faire ou ne pas faire[8]. ''L'homo religiosus'' possède des connaissances précises en ethnobotanique et en ethnozoologie. Dans tous les gestes qu'il pose, une connotation religieuse s'associe à l'activité technique, et toute activité technique prend assise sur des principes moraux et non sur des exigences économiques. De plus, les deux aspects, moral et religieux, doivent être séparés. Ainsi, les occidentaux peuvent comprendre un geste de façon contradictoire, alors que pour l'homme primitif ce type de contradiction n'existe pas. Une mutilation dentaire par exemple, nous semble un non-sens puisqu'elle nuit au développement de l'enfant. À l'inverse, pour ces sociétés différentes, cette mutilation est nécessaire pour pénétrer dans la société des adultes, au même titre que les autres rituels imposés. Malgré ces divergences, aucune religion exotique ne peut être taxée de religion très primitive. En effet, si certains comportements peuvent apparaître comme plus élémentaires si on les compare à ce qu'on observe chez la plupart des peuples ''civilisés'', leur caractère primitif est, à y bien penser, très relatif.

2 – Le mana[3]

Les phénomènes religieux ou magico-religieux se définissent par la notion du sacré. Dans l'ensemble des forces que l'on appelle mystiques (mana), certaines sont sacrées, d'autres le sont moins. La notion de ''mana'' est universelle et signifie ''autorité'' aussi bien que ''chose spirituelle''. Est ''mana'', tout élément spirituel qui exerce un pouvoir sur l'individu. Mais cet esprit est considéré comme un peu matériel. Cela paraît contradictoire, mais le concept de dissociation entre la matière et l'esprit n'a pas toujours existé.

Chez l'indigène, les faits religieux sont coutumiers. Tout est religieux chez lui, rien n'est laïque. Mais l'importance des phénomènes religieux varie beaucoup d'une société à une autre. En dépit du caractère coutumier que présente la religion, elle est ce qu'il y a de plus conscient dans l'esprit de ceux qui la pratiquent, surtout dans les couches populaires où un sens du concret contrebalance le sens des notions abstraites.

À la lumière d'une telle philosophie, faudra-t-il considérer la mutilation dentaire comme une superstition ou une contradiction? Sera-t-elle dictée ou non par l'influence d'un sentiment religieux?

La mutilation dentaire fait partie des rites religieux au sens strict. En effet, elle est obligatoire pour que l'enfant cesse d'être un enfant et ait accès au monde adulte. Elle va de pair avec la mutilation sexuelle. De plus, elle peut faire partie des rites religieux au sens large. Dans ce cas, elle n'est plus obligatoire, mais elle fait partie d'un code de magie et de divination. Enfin, elle peut être tout simplement l'expression de croyances populaires et faire partie du folklore, donc n'être pas davantage qu'une superstition.

Dans les conditions les plus habituelles,

ce rite d'initiation est obligatoire car l'adolescent ne saurait être admis dans la classe des adultes avant l'initiation.

3 – Le totémisme[8]

Le totémisme est le culte d'une espèce végétale mais le plus souvent animale à laquelle le clan s'identifie. Le totem devient ainsi l'objet d'un culte célébré par une classe d'âge, une fratrie ou un clan. L'individu lui-même peut avoir des totems personnels, sous la forme d'un être vivant, d'une âme morte ou d'un germe à réincarner sous la forme d'une dent extraite au cours de son adolescence, ou de son prépuce. Les rites totémiques sont très proches de la terre. Ils se tiennent dans des lieux sacrés à des époques déterminées où les différents clans se réunissent en sessions.

4 – Les grands cultes tribaux[8]

Le clan n'est pas capable à lui seul d'initier ses membres, car à l'initiation se mêlent des rituels qui dépassent le culte des clans et qui réclament le concours de la tribu toute entière. L'initiation comprend trois étapes distinctes, la séparation d'avec la mère, l'introduction à la vie d'adulte, et enfin la rentrée dans la vie de la tribu.

La partie clef du rituel d'initiation correspond toujours à la représentation du mythe de la mort et de la renaissance. L'initiation commence par un isolement de quelques semaines, voire de quelques mois ou années. Au cours de cette retraite, les jeunes gens reçoivent une éducation morale et technique, civique et militaire, ainsi qu'esthétique puisqu'ils apprennent à danser. L'enseignement de la magie et de la mythologie qui accompagne l'initiation rehausse les liens de loyauté individuelle aux institutions de la société tribale.

La mutilation dentaire marque ensuite l'initiation. Elle se fait au camp des initiés, sur des lieux sacrés situés en brousse, à l'écart des villages. Quand les rites d'initiation sont donnés indifféremment à tous les jeunes gens et jeunes filles, ils correspondent généralement au culte d'un grand dieu. La partie essentielle du rituel correspond toujours à la représentation du mythe de la mort et de la renaissance. Une relation étroite avec les morts s'établit à ce moment, et l'âme de l'adolescent peut se compléter (c'est le ''making young man'' des tribus australiennes). La mutilation dentaire fait partie d'une des épreuves. Des assurances sont prises contre la mort: les dents de l'initié sont déposées dans un arbre ou dans un sanctuaire où résidera une partie de son âme. Si la dent est sacrifiée et placée dans une cache, c'est qu'elle est considérée comme une partie vitale de l'homme. On considère qu'elle assure une réserve de vie au sujet, et en particulier, une autre vie après la mort. Le couronnement du rituel d'initiation est le mariage.

Il y a aussi de forts liens entre les initiés contemporains. En Afrique noire, par exemple, tous les jeunes initiés sont en même temps frères et soeurs. Une parentée nouvelle basée sur l'initiation se crée. Le parrain, dans certains cas, est celui qui va infliger la mutilation. En Amérique du Nord, les aînés initient lentement les novices aux rites de la tribu.

La transition de l'enfance à l'adolescence est un phénomène biologique qui s'étale sur plusieurs années. Cependant, les tribus considèrent la puberté beaucoup plus comme une transition sociologique et comme un problème culturel. Les rites ne sont donc pas obligatoirement synchronisés avec la puberté biologique. Une dent peut ainsi être mutilée bien avant l'adolescence, et la mutilation considérée comme un acquis pour l'initiation ultérieure.

À l'issue des cérémonies, l'initié renaît ''homme du clan'' et est autorisé à adopter le statut des adultes pour rentrer au village.

III – CONCLUSION

Les mutilations dentaires sont donc une étape primordiale de l'initiation encore en vigueur dans certaines sociétés tribales. Le caractère religieux de l'initiation implique pour l'adolescent une obligation de s'y soumettre. L'initiation est structurée par l'idée de la mort, symbolisée par la séparation de l'enfant et de sa mère, et par la renaissance qui suit les rites, la renaissance au clan. Par l'assurance que l'adolescent pourra revivre après la mort, le rite s'intègre à un cycle vital et la vraie naissance coincide avec l'initiation. Enfin, elle a un rôle essentiel dans l'instruction religieuse, l'éducation morale, technique et esthétique, ainsi que dans l'éducation sexuelle.

Toutes les mutilations dentaires cependant n'impliquent pas une initiation de l'adolescent. En effet, par exemple, chez les Alorese de l'Est de l'Inde, les incisives sont limées sur la moitié de leur hauteur, puis laquées en noir. Aucun rite, aucune initiation tribale ne sont attachés à cette coutume dont bénéficient les adolescents vers l'âge de 16 ans. Ce limage, ou même l'extraction des dents antérieures, sont exécutés dans des buts esthétiques, ou pour tester les capacités d'endurance du sujet vis-à-vis de la douleur, ou encore, pour établir un statut d'identification[8].

L'observation de certaines peuplades peut aussi conduire les non ethnologues ou les non anthropologues à certaines méprises. Ainsi, la perte des incisives supérieures chez les populations arctiques du Sud-Ouest pourraient être assimilées à des mutilations volontaires alors qu'elles ne sont que le résultat des traumas multiples infligés à leurs dents utilisées comme outils, au cours de la vie de tous les jours[10].

Les mutilations dentaires rituelles ou seulement coutumières tendent à disparaître. En effet, la perte des dents accélère, par exemple, l'installation de la sénilité, avec en conséquence la perte de la stature chez certains peuples comme la tribu Macomba en Afrique de l'Est[5]. C'est pourquoi de nouvelles lois édictées par les gouvernements les interdisent formellement. Il est cependant difficile d'atteindre tous les intéressés au fin fond de la brousse et de faire respecter intégralement les règlements de la capitale.

On rencontre occasionnellement dans nos pays civilisés des individus qui n'ont pas pu bénéficier de ces lois qui, de plus, sont relativement récentes. Comme ce sénégalais de la région de Dakar, immigré à Montréal, handicapé par ses mutilations dentaires et qui s'est plaint de ses honoraires de dentiste![5]

Au cours de l'initiation chez les primitifs, la circoncision était associée à l'ablation de la chevelure et à l'extraction des dents, ou seulement à ces deux dernières opérations. Il est amusant de constater que les enfants des pays civilisés, qui cependant ignorent tout des coutumes tribales, se comportent dans leur réaction d'angoisse chez le coiffeur et chez le dentiste, comme s'ils considéraient la coupe des cheveux et les soins dentaires l'équivalent de la castration.

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ROOT SURFACE CARIES

EPIDEMIOLOGY, ETIOLOGY AND CONTROL

L.R. Yanover, DDS, PhD
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ABSTRACT

More people are retaining their teeth into later years of life as a result of better dental care. However, these teeth and their supporting structures will likely begin to experience dental problems such as caries and periodontal disease.[1,2] One study has reported that two-thirds of adults treated for advanced periodontal disease develop root caries, affecting about 5 per cent of their periodontally treated teeth.[3] The seriousness of this problem is highlighted by the fact that no methods presently exist to satisfactorily restore the destruction of the root caused by this lesion.[4-6]

The topic of root surface caries has been reviewed in the dental literature[6-8] but the epidemiological information on root caries is clouded by a scarcity of studies, involving very diverse populations, and being further hampered by a lack of standardized methods to assess root caries.[4,8,9]

SOMMAIRE

Aujourd'hui, plus de gens conservent leurs dents jusqu'à un âge avancé parce qu'ils ont une meilleure hygiène bucco-dentaire. Il est probable cependant que ces gens auront éventuellement des problèmes comme la carie et la parodontite qui affecteront leurs dents et les structures qui les soutiennent. D'après une étude, les deux tiers des adultes traités pour une parodontite avancée finissent par avoir des caries de surface radiculaire affectant environ 5 pour cent de leurs dents traitées. Ce problème est d'autant plus sérieux qu'on ne dispose actuellement d'aucune méthode pour restaurer avec satisfaction les racines endommagées par ce genre de lésion.

Les caries de surface radiculaire ont fait l'objet de plusieurs articles scientifiques, mais les renseignements d'ordre épidémiologique sur ce genre de caries restent peu clairs à cause des rares études qui ont été faites sur le sujet. Du reste, ces études ont porté sur des populations très diverses et sont peu utiles, étant donné qu'il n'existe pas de méthodes uniformisées pour évaluer les caries de surface radiculaire.

Generally speaking, the percentage of persons having one or more root surface carious lesions ranges from 10 to 80 per cent, depending on the population under observation.[10-20] The average number of lesions per person can vary from 0.6 below age 40 to 3.4 lesions in those over 60.[18] Chronically ill and hospitalized patients often have much greater root caries experience. Banting et al.[20] recently reported an occurrence of over six lesions per person among chronically hospitalized older adults. The Vipeholm caries study,[10] which studied a group of institutionalized mental patients, reported that over one-half of all new lesions in the oldest age group (>37 years) developed root caries, with a mean annual average of 2.6 lesions per person. Thus, with the increasing number of elderly and the retention of more teeth to a greater age, root caries will become more prevalent, especially among the institutionalized.

ROOT CARIES

ETIOLOGY

There is no reason to doubt that root caries, like coronal caries, is a plaque-mediated disease of microbial origin, generally associated with a thick, adherent plaque on the tooth root.[21] The plaque microflora associated with root caries in animal models has included organisms such as *Actino-*

myces viscosus, A. naeslundii, S. mutans and *S. salivarius*.[22-26] Only a few microbiological investigations of human root surface caries have been reported in the literature.[27-32] These studies have yielded organisms including *Actinomyces* spp., *Rothia dentocariosa, S. mutans, S. sanguis, Arthrobacter*-like organisms and lactobacilli. A number of investigators have been unable to demonstrate any consistent association between a specific dental plaque microbiota and root caries.

Only two microbiological studies of root caries used a longitudinal design,[31,32] in an attempt to determine whether specific bacteria became more plentiful or colonized a root surface prior to the initiation of clinically detectable root caries. In both studies, root caries activity or the risk of developing root caries was linked to the presence of *S. mutans* and lactobacilli, although it should be stated that these specimens may not necessarily be etiologically significant. Recent microbiological studies of coronal caries have also noted that salivary counts of *S. mutans* and lactobacilli are effective for identifying caries-active children.[33,34] Other factors include greater plaque accumulation at the gingival margin and frequent intake of fermentable carbohydrates.[10,14,32]

PREVENTION

Since root caries seems to be a plaque-induced microbiological disease, the approach to its prevention should be similar to that for coronal caries; one must decrease the virulence of the pathogenic microflora and increase the resistance of the host. Although it has been demonstrated that dental caries and gingivitis can be dramatically reduced by plaque removal through frequent professional tooth cleaning and rigorous home care practices,[35] this is an expensive and impractical approach for the general population. For older people, simply carrying out good mechanical plaque removal through toothbrushing and flossing can be difficult, as these skills require a high degree of dexterity and fine motor control, which often diminish with age. Thus, it is not surprising that plaque and debris scores are higher in older age groups.[36]

The use of chlorhexidine for controlling dental plaque, gingivitis and caries has been thoroughly reviewed.[37-41] It would seem reasonable that a simple approach to plaque control, such as the use of the antiplaque agent chlorhexidine gluconate (CHX), would be particularly applicable for use in older adults to enhance, or even replace where warranted, mechanical plaque control. Oral use of CHX is considered to be safe,[42] although there have occasionally been effects which include staining of teeth,[43] a bitter taste[43,44] and the occurrence of burning mouth or ulceration.[43,45]

There has been some question as to whether CHX can be used for the prevention of dental caries. Experimental animal models have demonstrated that topical applications of 0.2 per cent CHX are highly effective in reducing caries.[46-49] This may be due to the susceptibility of *S. mutans* to the antimicrobial action of CHX,[50,51] as well as inhibiting acid production by this organism.[52] Using a human model, it has also been shown that plaque inhibition by CHX could inhibit caries formation.[53] Although a clinical trial using 0.5 per cent CHX gel daily for 12 months in dental students did not show any significant caries reduction, it was noted that no significant reduction in *S. mutans* was observed during the study.[54] Zickert and co-workers[55] treated children having high salivary *S. mutans* counts with a 1 per cent CHX gel and found significantly less caries in the active as compared to the control group after three years if *S. mutans* levels were reduced or eliminated.

Until recently, no clinical trial of a CHX mouthrinse has attempted to demonstrate that oral *S. mutans* levels could be decreased, although plaque scores, gingivitis and the overall oral flora have been examined.[56-59] A recent study[60] showed that the daily use of 0.2 per cent chlorhexidine in a flavoured rinse significantly reduced *S. mutans* levels in an institutionalized, elderly population. Plaque and gingivitis scores were also reduced significantly. Furthermore, daily use of the rinse can suppress *S. mutans* counts for at least six weeks following discontinuation of the chlorhexidine.

Although a daily 0.2 per cent CHX rinse is effective in reducing *S. mutans*, a solution that could decrease the microbial challenge as well as increase host resistance to caries might be even more useful and the combination of CHX with fluoride has been proposed.

The effect of fluoride alone on root caries has recently been reviewed by Newbrun.[61] A limited number of studies, mostly related to the use of topical fluorides for control of patients at high risk to root caries due to xerostomia, have shown that fluoride can be effective in this capacity. Unfortunately, no adequate studies presently exist which specifically focus on the effect of topical fluoride application on the development of root caries.[62]

Root surface cementum has a high affinity for fluoride. There is a marked elevation of fluoride in the outer cementum layer when the level of fluoride in drinking water or length of time exposed to fluoridated drinking water increases.[63-66] Human epidemiological data suggest that lifelong exposure to fluoridated drinking water is associated with a significantly reduced prevalence of root caries.[16]

Evidence from animal models[67-69] and *in vivo* studies[70] suggest that topical fluoride increases the resistance of tooth roots to acid demineralization. Other recognized therapeutic effects of fluoride may be important,[71] and the combination of CHX and fluoride (F) is attractive for a number of reasons: CHX and F both inhibit bacterial acid production, an important factor in the pathogenesis of dental caries;[72-74] the ability of F to reduce enamel solubility is not reduced by CHX;[75] F does not bind or affect the antimicrobial activity of CHX;[44,76] and the combination of CHX + F in animal models reduces plaque and caries scores significantly.[77-80]

In human clinical trials of CHX + F, a significant reduction in plaque,[81] gingivitis,[82,83] *S. mutans*[83,84] and enamel caries[82,85] have been observed. The use of CHX + F as a daily topical gel supplemented by a daily rinse has proved to be more effective than a similar F only regime in reducing radiation xerostomia induced enamel and root caries.[86] The combination of CHX + F looks very promising and has been recommended for use in the elderly,[87] although supporting clinical data are, as yet, lacking.

CONCLUSION

Root caries is a growing problem due to an increase in the elderly population in Canada and other countries. Chlorhexidine has a demonstrated ability to reduce plaque, gingivitis and *S. mutans* counts. *S. mutans* has been implicated as a causative agent of root, as well as coronal caries, and suppression or elimination of this pathogenic organism may prove beneficial in the control of dental decay. The presence of fluoride with chlorhexidine in a therapeutic product may have additional caries-preventive effects. The use of such products should be encouraged for control of dental caries in high-risk populations such as the elderly, the handicapped and other targeted populations.

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CURRENT REGULATORY STATUS OF DENTAL IMPLANTS IN CANADA

Since April 1, 1983 all new implantable devices have been subject to premarket review and must obtain a Notice of Compliance before being sold in Canada. This may be obtained by submitting to the Director, data substantiating safety and efficacy of the device. (See Appendix I for those devices that have submitted data on safety and efficacy and have received a Notice of Compliance).

However, from time to time some products enter the market without going through the proper regulatory process. Recent concerns regarding dental implants being sold in Canada have prompted the Branch to request safety and efficacy data from all manufacturers in this device class (Appendix II). This data is requested under Section 28 of the Medical Devices Regulations from those manufacturers who were selling their products prior to the implementation of the implant regulations (Appendix III).

Individuals wanting to know the status of a new product or wanting to have a copy of the Medical Devices Regulations, may address their inquiries to Premarket Review, Division of Clinical Assessment, Health Protection Branch, Health and Welfare Canada, Environmental Health Centre, Tunney's Pasture, Ottawa, Ontario, K1A 0L2, or call (613) 954-0386.

APPENDIX I

The following manufacturers have provided data on safety and efficacy and have permission to sell their products in Canada:

Manufacturer: Interpore International Inc.
Device: Interpore IMZ Implant System
Notices of Compliance Issued January 6, 1987.

Manufacturer: Nobelpharma Canada Inc.
Device: Biotes Osseointegration Dental Implant System
Notices of Compliance Issued October 30, 1986 (non-sterile), and June 30, 1987 (sterile).

Manufacturer: Anchor Implant Ltd.
Device: Anchor Dental Implant System
* Clinical Trial Status granted until September, 1988.

* Permission to sell to designated investigators only.

APPENDIX II

Sample Letter

Environmental Health Centre
Tunney's Pasture
OTTAWA, Ontario

To: All Manufacturers of Dental Implants

You are hereby requested, in accordance with Section 28(1) of the Medical Devices Regulations, to submit to me, on or before* October 31, 1987, evidence in respect of the product in question, distributed by you in Canada.

This information should include evidence to establish the safety and efficacy of the device under the conditions of use recommended and the effectiveness of the device for the purposes recommended.

A copy of the Medical Devices Regulations and the "Guide to the Preparation of a Submission Pursuant to Part V of the Medical Devices Regulations" are enclosed to aid you in preparing your submission.

E. Somers
Director General
Environmental Health Directorate

APPENDIX III

The following manufacturers have notified sale of their devices prior to April 1, 1983 and have been requested to now provide data on safety and efficacy in accordance with Section 28(1):

Manufacturer: Core-Vent Corporation
Device:
Core-Vent Implants 3.5, 4.5 and 5.5 mm (non-sterile)
Core-vent Attachment and insert (non-sterile)
Titanium Coping Insert (non-sterile)
Polysulfone Attachment and Coping Inserts (non-sterile)

Manufacturer: Kyocera International Inc.
Device:
Bioceram Implant Kits (Screw type)
Bioceram Dental Implants (Blade type)

Manufacturer: Miter Inc.
Device:
Synthograft
Titanaloy Implants
Titanaloy Submersible Implant System
Synthdont Implants

Manufacturer: Synthes of Canada Ltd. of Synthes Maxillofacial
Device:
ITI Oral Implant Systems

Manufacturer: Cook-Waite Laboratories Division of Sterling Drug Ltd.
Device:
Periograf Periodontal Bone Grafting Implant

(This vital information has been provided for release in JCDA by the Health Protection Branch, Health and Welfare Canada.)

ORAL HEALTH STATUS OF 13-YEAR-OLD SCHOOL CHILDREN IN ALBERTA, CANADA

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ABSTRACT

A survey of the dental health of 13-year-old children in Alberta was completed in 1978. In order to examine the pattern of dental disease over the past seven years, a new survey was undertaken in 1985.

A stratified multi-staged sampling of students was undertaken and 3,117 were selected, all of whom would be 13-years-old at the time of examination. These children were examined for a variety of oral conditions, but in this paper discussion will be confined to the findings on dental caries, periodontal disease and oral hygiene status.

The findings show a dramatic improvement in oral health over the seven-year period 1978-1985; the caries-free children now comprise 24 per cent of the community sampled compared with 7.5 per cent in 1978 and the mean DMFT has declined from 4.74 in 1978 to 3.09 in 1985, a 35 per cent reduction. The periodontal assessments included the new CPITN index as well as the oral hygiene index of Greene and Vermillion for comparison with the 1978 survey; the OHI(S) index showing little change, being 0.81 in 1978 and 0.89 in 1985. The overall findings show a dramatic reduction in dental disease, which is discussed in relationship to the availability of fluoride through various agents and the recommendations of WHO that a level of 3 DMFT be achieved in the world population of 12 to 13-year-olds by the year 2000.

SOMMAIRE

En 1978, on a fait une étude sur la santé bucco-dentaire des enfants âgés de 13 ans habitant en Alberta. Afin d'étudier l'évolution des maladies dentaires au cours des sept dernières années, on a entrepris une autre étude en 1985.

Pour cette seconde étude, on a choisi dans les différentes classes de la société 3.117 étudiants qui, au moment de l'examen en plusieurs parties, devaient tous avoir 13 ans. L'examen a porté sur plusieurs points de leur état de santé bucco-dentaire, mais dans le présent article, on parlera seulement des résultats recueillis touchant les caries, la parodontite et l'hygiène buccale.

Au cours des sept années allant de 1978 à 1985, la santé bucco-dentaire des enfants s'est énormément améliorée. Parmi les sujets examinés, 24 pour cent étaient exempts de caries, alors qu'il y en avait seulement 7,5 pour cent en 1978, et la moyenne des dents CAO a baissé, passant de 4,74 en 1978 à 3,09 en 1985, soit une réduction de 35 pour cent. Pour les examens parodontaux, on a utilisé le nouvel ICPBT (indice communautaire parodontal des besoins en traitement) ainsi que l'indice de l'hygiène

buccale de Greene et Vermillion pour comparer les résultats de 1978 à ceux de 1985, l'indice de l'hygiène buccale simplifié révélant peu de changement, étant de 0,81 en 1978 et de 0,89 en 1985.

En général, les résultats démontrent une réduction spectaculaire des maladies dentaires, réduction qu'on attribue à l'utilisation de divers produits fluorurés et aux recommandations de l'OMS qui, pour l'an 2000, veut abaisser à trois la moyenne des dents CAO parmi les jeunes de 12-13 ans dans le monde entier.

The World Health Organization has stated they would like to see a world average of dental caries for 12 to 13-year-old children held at a mean level of 3 DMFT or better by the year 2000.[1] In 1978, a provincial survey which included a population of 13-year-old children was undertaken in Alberta.[2] (population 1.6 million at that time), the mean DMFT of the 13-year-old children being 4.74.

A new survey of the dental health of 13-year-olds was undertaken in 1985 to examine the changing patterns of dental disease over the seven-year period 1978-1985 and to look at the health measures that might be needed to reach the WHO objective of 3 DMFT by the year 2000.

The results from the new 1985 survey are given below and discussed in respect of the changes within the Province of Alberta and the declining caries levels reported from developed countries.[3-5]

MATERIALS AND METHODS

Selection of the Study Group

The population of Alberta has increased from 1,603,531 in 1978 to 2,337,900 in 1985; the population being distributed between the two major cities, Calgary and Edmonton, and the non-metropolitan communities (**Table I**). A stratified multi-staged sampling of the 13-year-old children (aged 13 years on January 1, 1985 and who would not be 14 years of age before the conclusion of the survey on May 31, 1985), was designed to identify a representative group.

Within these strata, school boards became the first sampling unit, schools the second, and the final sampling unit was the individual student.

The population in each metropolitan area (a population area 250,000 or greater) was divided into high, medium or low socioeconomic status on the basis of the number of persons per thousand in receipt of social assistance. From this stratum, schools were then selected as being Public, Separate or Private and then further stratified to obtain representation from large, medium and small schools. School size was determined on the basis of the number of registered 13-year-old students: a large school having more than 50 students, a medium school having 10-50 students and a small school having less than 10 students of this age group.

In the non-metropolitan areas, it was not necessary to stratify on the basis of socioeconomic status since, in most cases, rural and urban schools were centralized. These areas were, however, stratified on the basis of urban and rural; urban having a population between 10,000 and 250,000 and rural a population between 500 and 9,999 people. All sampling areas were further designated as being fluoride or non-fluoride (**Table II**).

The third stratum for the non-metropolitan areas was school size, with only large and small being designated; a large school having more than 10 and a small school having less than 10 students of this age.

By this method 3,117 children were selected, (50.2 per cent female and 49.8 per cent male), approximately a 10 per cent proportional sample of 13-year-olds in the province.

Examination criteria

Dental caries was recorded according to WHO definitions[6] using the DMFT index.

Oral hygiene status was recorded according to the method of Greene and Vermillion[7] using the OHI(S) index.

Periodontal and gingival health status was recorded according to the Community Periodontal Index of Treatment Needs (CPITN).[8]

Other oral health indices were used in the investigation but for this paper, only those indices given above will be detailed.

TABLE I

Sample Distribution of Survey

Area	Alberta Population Distribution n	%	Sample Population Distribution n	%
Calgary	645,730	27.6	836	26.8
Edmonton	577,340	24.7	798	25.6
Non-metropolitan	1,114,830	47.7	1,483	47.6
	2,337,900	100.0	3,117	100.0

TABLE II

Sampling Areas by Fluoride* Exposure Relative to Community and School Size

Population**	School Size*** Small	Medium	Large
Rural	F^-; F^S; F^+		F^-; F^S; F^+
Urban	F^-; F^S; F^+		F^-; F^S; F^+
Metropolitan	F^-; F^S; F^+	F^-; F^S; F^+	F^-; F^S; F^+

** **Population**
Rural 500 – 9.999.
Urban 10.000 – 249.000.
Metropolitan 250.000+.

*** **School Size**

	Rural and Urban	Metropolitan
Small	≤ 10 13-year-olds	≤ 10 13-year-olds
Medium		11-49 13-year-olds
Large	> 10 13-year-olds	> 50 13-year-olds

* **Fluoride**
F^- < 0.7 ppm F. in water (naturally) no F added to water supply, no rinse or supplement program after the age of 8.
F^S < 0.7 ppm F in water (naturally) no F added to water supply, rinse or supplement program for ages 8-12.
F^+ ≥ 0.7 ppm F in water either naturally or after addition of F to water supply, or rinse or supplement program which includes individuals up to and past the age of 13.

Calibration of examiners

Four examiners were used to collect the data. They had spent a three-day period of criteria evaluation by examining volunteer 13-year-old children whose birthdates would not have qualified them for inclusion in the sample.

Dr. A.M. Hunt from the University of Toronto, who has been involved in several WHO surveys, calibrated the examiners for consistency and uniformity according to WHO criteria.[6] Approximately one in 10 children was re-examined by the same examiner during the survey (**Table III**). Both inter- and intra-examiner comparisons were maintained at an acceptable level.

Available fluoride levels

Because of the ubiquitous use of fluorides and the mobility of the studied population, it became increasingly difficult to identify groups who had not been exposed to significant amounts of fluoride during the six to eight year period of permanent tooth enamel development.[9,10]

In this study, questions were asked to determine how long the children had lived in the community where they were examined and, if less than five years, where they had lived before. These residency histories were correlated with the use of fluoride supplements, fluoride rinse programs and community water fluoridation, in an attempt to separate out a non-fluoride group (**Table II**). It was only possible to identify 208 children who did not fall into a community with one of the above listed fluoride programs and even the majority of these children came from households using fluoride toothpastes.

RESULTS

The findings from the dental caries examinations are shown in **Table IV**. The number of caries-free children was 747 (24.0 per cent). The frequency distribution of DMFT is shown in **Table V**. The decayed missing and filled indices by population area are shown in **Table VI**. Significant differences are shown between rural and metropolitan DMFT and between rural and combined urban and metropolitan DMFT. The findings for the Oral Hygiene Index and CPITN average severity score are given in **Table VII**,

TABLE III

Intra-Examiner Comparisons from Duplicate Examinations

Index	Mean Differences	± Stan. Dev.
Oral hygiene	0.12	0.26
CPITN	0.05	0.17
DMFT	0.02	0.56
DT	0.02	0.48
MT	0.00	0.00
FT	0.00	0.34

TABLE IV

Number of Decayed Missing and Filled Teeth and Children with Zero Incidence by Fluoride Level

	DMFT				
	ATA*			ZIA+	
	n	Mean	±Stan. Dev.	n	%
Non-Fluoride	208	3.88	3.28	30	14.4
Fluoride	2,909	3.04	2.81	717	24.6
	3,117	SIG.($p<0.01$)		747	SIG.($p<0.01$)
Total	3,117	3.09	2.85	747	24.0

*ATA: Affected tooth analysis. +ZIA: Zero incidence analysis.

TABLE V

Frequency Distribution of Number of Decayed, Missing or Filled Teeth

DMFT	n	%
0.00	747	24.0
1.00	317	10.2
2.00	415	13.3
3.00	344	11.0
4.00	502	16.1
5.00	281	9.0
6.00	179	5.7
7.00	115	3.7
8.00	89	2.9
9.00	42	1.3
10.00	17	0.5
11.00	23	0.7
12.00	13	0.4
13.00	10	0.3
14.00	6	0.2
15.00	5	0.2
16.00	6	0.2
17.00	2	0.1
18.00	3	0.1
19.00	1	0.0
Total	3,117	100.0

TABLE VII

Oral Health and Periodontal Conditions

Index	n	Mean	±Stan. Dev.
Oral hygiene	3117	0.89	0.55
CPITN average severity score	3117	0.28	0.36

TABLE VIII

CPITN Average Severity Score by Population Area

	n	Mean	±Stan. Dev.
Metropolitan	1634	0.28	0.37
Urban	590	0.27	0.37
Rural	893	0.27	0.33

TABLE VI

Decayed, Missing and Filled Indices by Population Area

	Rural (n=893)		Urban (n=590)		Metropolitan (n=1,634)	
Index	Mean	±Stan.Dev.	Mean	±Stan.Dev.	Mean	±Stan.Dev.
DMFT*	3.37	2.81	3.19	2.95	2.90	2.83
DT**	0.91	1.52	0.73	1.48	0.64	1.33
MT***	0.05	0.30	0.03	0.27	0.02	0.22
FT	2.41	2.50	2.43	2.48	2.24	2.49

**DT : Rural vs Urban: $p<0.05$
: Rural vs Metro: $p<0.01$
: Rural vs Urban and Metro $p<0.01$

***MT: Rural vs Metro: $p<0.01$
: Rural vs Urban and Metro $p<0.01$

*DMFT: Urban vs Metro: $p<0.05$
: Rural vs Metro: $p<0.01$
: Rural vs Urban and Metro $p<0.01$

and the CIPTN average severity score of 0.28 suggests that treatment needs are very low. **Table VIII** shows the CPITN average severity score by population area and no statistically significant difference is shown.

DISCUSSION

The findings from the 1985 survey of 13-year-old children show a marked reduction in dental caries when compared with the 1978 survey.[2] The DMFT values for the total population declined from 4.74 to 3.09 – approximately a 35 per cent reduction. The caries-free component increased from 7.5 per cent in 1978 to 24.0 per cent in 1985. Two of the examiners who undertook the 1985 survey were involved in the 1978 survey and direct comparisons, using the same diagnostic criteria, add to the validity of this comparison.

In discussing the age group for comparison with WHO recommendations, WHO states that the children should be 12-13 years of age, this being a school group that can be readily identified throughout the world. This is interpreted by some workers from a practical survey situation, as being children in their 12th year, i.e., 11.0 to 11.9 years of age or, specifically, children having reached 12 years of age or those 13.0 to 13.9 years of age. In this study the last category was selected – the children being on average 13.43 ± 0.14 years.

In making world comparisons, this would be at the highest age limit of the WHO recommendation and if a mean of 3 DMFT is achieved for this group by the year 2000, it would meet the WHO aims.

The reduction in DMFT to a mean of 3.09, although dramatic, is still above the 3 DMFT level suggested by the WHO as an aim for a community by the year 2000; that level is one, however, that should be easily attained and bettered in the time available. Fluoride availability in 1985, with some areas having water fluoridation, some having supplementation programs, some having rinse programs and most children using fluoride toothpastes, made comparison between a fluoridated and non-fluoridated community virtually impossible.[9,10] Nevertheless, 208 children did not fall into one of these fluoride groups. Analysis comparing this group of 208 children with the other children receiving fluoride, either from supplementation, fluoride rinse programs or fluoridation of water supplies showed that the fluoride group has almost reached the WHO objective; the non-fluoride group is still approximately 1 DMFT above the 3 DMFT aim.

When comparing the metropolitan DMFT levels with the rural and urban population areas, both separately and combined, significant differences are shown. No significant difference exists between rural and urban areas. The indication that the rural communities' DMFT can be further reduced using available fluoride methods is suggested.

The caries reduction in the province of Alberta over the past seven years follows the pattern of declining dental caries shown in other developed countries.[3-5] The need for further preventive methods, however, is indicated in order to reduce dental caries by the age of 13 years. The identification of high risk children is suggested. From the frequency distribution of dental caries, 58.5 per cent of the children have three or less DMFT but 41.4 per cent have a DMFT of four or more, and 16.3 per cent have a DMF of six or more teeth, twice that recommended by WHO.

The oral hygiene levels, as shown by the OHI(S) index, remain at similar levels for 1978 and 1985. The Community Periodontal Index of Treatment Needs (CPITN) has an average severity score of 0.28, which suggests that the periodontal treatment needs for the group are very low and extend barely beyond that required for marginal gingivitis, a condition which is extremely common in this age group.[11,12]

This study shows the current dental health status of 13-year-old children in a western Canadian province and illustrates the declining dental caries levels being reported by other developed countries. It also identifies that the WHO criteria for a mean of 3 DMFT for 12 to 13-year-old children by the year 2000 has already marginally been reached. With 16 per cent of the children having DMFT levels of six or more, it is suggested that when assessing community dental health needs, at risk children should be identified, to receive individual comprehensive preventive dental health measures. Such action should mean that communities could meet the WHO aims for the year 2000.

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PROPOSED CRITERIA FOR MATRICES

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ABSTRACT

The properties of a good matrix are listed and discussed. Emphasis is given to factors of operator control and asepsis. Seventeen essential and six desirable characteristics are listed.

SOMMAIRE

Voici un article portant sur les propriétés que doit posséder une bonne matrice. Les facteurs auxquels on attache de l'importance sont la maîtrise de l'opération et l'asepsie. On donne une liste des 17 caractéristiques qui sont essentielles et on en indique six autres qui sont souhaitables.

The composite or amalgam matrix is deserving of a listing of its essential attributes, and dental educators will find such a list valuable in the compilation of their syllabi. Practitioners need standards within which they may make choices and manufacturers should be guided by specifications supplied by the profession.

Matrix assemblies participate in millions of restorative treatments each year and contribute to the success of dental practices as well as treatments. The critical demands for a clean and competently applied matrix are well documented. Baum, Lund and Phillips,[1] Powell, Nicholls and Molvar,[2] Kennedy[3] and Meyer[4] describe hazards which accrue when the assembly is mechanically imperfect. Takei,[5], Burch,[6] Eissman[7] and many others have written of the desirability of well-controlled contours. Many authors[8-15] report serious systemic illness following relatively non-invasive dental care. Of this group, only one — Little and Falace[12] specifically name the matrix as the source of the innoculum. However, it is a reasonable assumption that an abusive insertion of an unclean matrix might afford a bacteremia. Little and Falace state "Any dental procedure that causes injury to the soft tissue or bone can produce a transient bacteremia. Even minor dental manipulations such as the cleaning of teeth or the placement of a matrix band can result in a transient bacteremia."

A review of several texts[16-19] which teach operative techniques revealed limited listings. Castaldi and Brass,[20] Gilmore,[21] Marzouk, Simonton and Gross,[22] and Sturdevant[23] meet the need for categoric listings more generously.

Obturation

The fencing of a portion of a tooth void is the fundamental objective of matrix usage. The matrix assemblage must facilitate the placement and shaping of a restoration by occluding as much of the void as possible without precluding the success or visibility necessary for accurate placement and adaptation of restorative materials.

Contour

The contours of the matrix must be subject to the control of the operator. Most often they are imitations of the original tooth contours although, at times, clinical considerations may demand a non-anatomical variation. It is advantageous to arrange for either of these contour modes in the negative, i.e., to so contour the matrix as to minimize subsequent carving.

Contact

An intimate contact with the adjacent tooth is essential for the regeneration of acceptable zonal health. Neither the retaining device nor its wedge/seal may be permitted to draw the matrix contact from the approximating tooth. The closure of the gingival margin must not concomitantly reduce the dimensions established at the contact level.

The natural profile of the tooth may diverge much or little from the tooth axis as it traverses the interproximal space to touch the contact. The matrix must repeat that divergence and the operator's choices must not be limited by the size or design of the matrix/retainer/wedge system.

Seal

The matrix-against-tooth interface must be intimately adapted at the gingival margin. Most commonly, this effect is combined with interproximal distension by a wedge placed transversely in the subcontact zone. The cross-sectional dimensions of the wedge must be adequate to firmly close the gingival margin but not so bulky as to force the matrix contact from its proper position.

Marginal Control

Although the meeting of facial and interproximal surfaces are referred to as "angles", these planes roll together in the manner of an irregular cylinder. The facial or lingual cavity margins (para-axial margins) often intersect that cylinder-like zone. Because of the short turning radius, great control over the cavity design is required to avoid fragile and unnatural knife-edged forms. The acquisition of sufficient bulk at these margins requires in-situ adaptation and either free matrix tabs or, with cylindrical matrices, a measure of latitude. The wedge must not be allowed to overfill the interproximal space and reverse the natural curvature of the matrix.

Malleability

The shaping of the matrix to accomplish sufficient marginal bulk in the middle third of Class 2 restorations is greatly facilitated by sustained malleability within the matrix material. A matrix which will yield to a burnishing instrument with hand pressures may be molded while in its functional position, i.e., secondary contouring. Gilmore and his associates state ". . .every matrix needs additional contouring after it is placed on the tooth".

The extent of the malleability must be practical – the shim must not yield so easily that it develops a "wrap around" concavity in the contact area. Neither should it yield to wedge pressures and fold over the gingival margin of the cavity. Occasionally a matrix is applied in regions where the placement is guided by finger sensation because visibility is poor. The matrix material must not be so pliable as to defeat this tactile advantage. Allowing for the sharpness of its edges, its thickness must be sufficient to provide tactile warnings when the soft tissues are being approached. Evans, Wetz and Wilko[24] warn, "To avoid injury . . . take care not to force the matrix band too far gingivally."

Thickness

When a matrix is removed it generates a between-contact void as wide as the thickness of its substance. Compensatory space may be generated by distending the interproximal space with wedging. The thinner the material, the less wedging required. However, the shim stock must maintain sufficient rigidity to resist dislodgement and distortion during the insertion of a restoration.

It is a common and desirable practice that stainless steel be used in thin shims which harden as the burnisher adapts them. Additional security is provided by coating the exterior surfaces with thermoplastic materials, such as low-fusing compounds.

The "effective thickness" of the material will usually be greater than the measured thickness of the stock. In the course of shearing the shim to its useful dimensions, a burr is formed at all cut edges. During the removal of the shim-form, the added thickness at the edge must pass between the contacts. If wedge-developed tooth separation is to be used to compensate for shim-form thickness, additional pressure must be used to compensate for the passage of its edge thickness.

Tissue Control

The shim-form should gently deflect the adjacent soft tissues from the treatment area before the wedge is inserted.

Rubber Dam Control

Like the papillary tissues, the rubber dam must be diverted. The interseptal rubber must be restrained from the nearby margins.

Cleansability

In its fabrication, packaging and office handling, shim stock may accumulate oils, shop dust and other unpredictable contaminants. Cleanliness demands the removal of such unwelcome additives without damage to the matrix.

Sterility

The device may accumulate microorganisms, conceivably toxic, during its manufacture, in storage or while in the operatory. Because the gingival tissues are sometimes edematous and the gingival edge of the shim-form tends to be incisive, the threat of an iatrogenically induced bacteremia must be averted. Stewart and his co-authors[25] incriminate dental flossing and pressurized water cleaners – relatively clean and gentle objects – as sources of bacteremias.

Withdrawal

The shim assembly must permit withdrawal with minimum damage to the incompletely hardened restorative. Disruptive friction-induced vectors may break away a portion of the marginal ridge mass or, deceptively, so disrupt the restorative as to encourage a future fracture. The line of withdrawal should be resisted by tooth tissue such as the facial wall of the cavity. The search for dead resistance to the stress of removal encourages a lateral direction of removal.

Smoothness

Two advantages evolve from the smoothness of the matrix metal surfaces: **(a)** the surface quality of the restorative will be enhanced and **(b)** less disruptive friction will develop as the shim is withdrawn.

Integrity

The matrix metal must not adhere to nor chemically interact with the restorative unless that interaction is planned.

Non-competitive

The inclination of the matrix from the tooth axis must be free of inhibitory influences from other parts of the system. The wedge must not be so large as to modify or preclude a secure contact. The band must not be so large as to discomfort adjacent tissues. The band must not dislocate teeth which are not involved in the treatment. The mesial and distal segments of the band must not deter one another from their needed profile angulations.

Distortion

The tooth tissues must not be distorted by the pressures of the matrix system. Powell and his colleagues caution against the use of constricting circular bands with vise-like pressures strong enough to distort the residual segments of a MOD prepared tooth.

Facility

Ease of application is essential. Dentists exhibit a variety of aptitudes. In usage, the technique must be acceptable to the practitioner with high standards but measured competence.

Supportive Features

The foregoing 17 listings are mandatory features; there are others which are highly desirable.

a. Matrices should be practical. The demands of profitmaking treatment regimens insist upon reasonable time and money expenditures for each service.

b. The forming system sequentially or simultaneously should permit multiple applications for the completion of a quadrant of services without imposing on the patient for needless appointments or injections.

c. The same system should be useful for more than one restorative material.

d. The same system should support a variety of placements such as required by Class 2, Class 5 and compound or complex Class 1 cavities.

e. Where light is used to initiate the polymerization of a restorative material, it may be helpful to have a shim which would allow the light to pierce its substance without much loss of intensity. It is probable that bright metal surfaces would augment the distribution of light by reflection.

f. Negative features must be avoided. Septic challenges and incised soft tissues have been mentioned as have inhibitory rigidities. The base material of the matrix must not be toxic or soluble. The distending wedge is potentially abrasive and, because of the triangular space into which it is forced, may exert unmeasured pressure on an innocent papilla.

DISCUSSION

Because no matrix system is known to provide all the desirable properties, a professional decision appears necessary for each restoration. McDonald and Avery[26] state "... none of the techniques perfectly reproduce the proximal surface..." Sturdevant[23] concurs. Sometimes an admirable characteristic presents a competitively abusive trait. An advantage such as thinness of material may become a disadvantage if tactile controls are needed. Distension will be required to the extent of the shim thickness but may crush the gingival papilla. Malleability will permit the generation of realistic contours but it invites excessive adaptation, dimpling at the contact. Gilmore et al recommend reusability as a cost-containment advantage, but the cost of time to reestablish contour and malleability may dilute any savings.

CONCLUSIONS

Each successful application will require professional concern for all of the prevalent factors and the practitioner will need maximum control and a range of matrix systems to contend with the variable circumstances.

Aseptic matrix applications deserve greater appreciation. Although Bornfield and others may debate the advisability of antibiotic prophylaxis, they do not challenge the likelihood of a bacteremia during or after dental treatment. Scully and Cawson[15] estimate 6 to 10 percent of infective endocarditis incidents may be accountable to dentistry. Harvey and Capone[10] attribute five case studies of endocarditis victims to dentistry. Their evidence may be circumstantial. However, in the absence of convincing evidence that wedge/matrix systems are innocent, it is prudent to consider their hazardous potential.

SUMMARY

The value of a criteria list for teachers, practitioners, students and manufacturers is cited. Seventeen essential characteristics of matrices are enumerated. Matrix systems must:

1. assure obturation
2. re-establish contour
3. form a positive contact
4. seal the gingival margin
5. allow adequate marginal bulk
6. permit secondary forming in situ
7. have limited thickness
8. facilitate tissue control
9. be compatible with rubber dam placements
10. allow cleansing and sterilization
11. permit a non-disruptive withdrawal
12. produce surface smoothness
13. minimize interaction with the restorative
14. must not compete with itself or nearby tissues
15. must avoid tooth distorting pressures
16. must not carry any toxic substances
17. must allow application with reasonable effort and skill

Six supportive advantages are cited; matrix systems should:

1. exhibit practicality of cost and time
2. permit quadrant-wide services
3. allow a variety of restoratives
4. support various surface restorations
5. accept light for curing purposes
6. avoid iatrogenic trauma.

Improved control will be derived from the availability of an assortment of matrix devices. Sterility is encouraged.

*Dr. **Meyer** is a retired general dental practitioner, a former instructor of operative dentistry at the University of California at San Francisco, and a principal in the manufacture of a commercially available matrix system.*

*The criticisms and guidance of **Dr. James H. Zinck**, Professor and Head, Operative Department, School of Dentistry, Louisiana State University, is acknowledged with warm gratitude.*

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must be descriptive but concise and suitable for indexing. Lengthy titles are subject to editing.

Legends:

must be typed as a group on a separate page for all illustrations. Photomicrograph legends must specify magnification and stain.

References:

must be keyed to the text and numbered consecutively. Journal references must give the author's name, article title, abbreviated journal name, volume number, first page number and last page number of article, year of publication:

1. Hechter, F.J. Symmetry and dental arch form of orthodontically treated patients. JCDA 44:173-184, 1978.

For books, give the author's name, book title, location and name of publisher, year of publication:

2. Kilpatrick, H.C. Work simplification in dentistry, ed. 2. Philadelphia, Saunders, 1964.13

Illustrations:

must be high quality and only professional-quality drawings, charts and graphs should accompany manuscripts. Color slides or negatives will not be accepted for publication. Radiographic films are not acceptable. Radiographs must be in the form of black and white glossy prints for successful reproduction. Color photographs will be published only on a limited basis and at the author's expense.

Submit three (3) sets of photographs (black and white, glossy, 3'' × 5''), drawings, charts and graphs. Using a grease pencil ONLY, lightly write the name of the corresponding author and figure number on the back of each illustration and photograph. Indicate 'Top' of each illustration.

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Permission and Waivers:

must accompany the manuscript. Waivers are mandatory for the publication of photographs of patients unless faces are masked to prevent identification. Waiver forms are available from the Journal of the Canadian Dental Association, Ottawa. Permission of the author and publisher must be obtained for use of previously published material quoted in the text and for use of previously published illustrations.

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Please Note: Manuscripts that do not conform to the above requirements will be returned to the author. Please read all instructions thoroughly.

Please direct all enquiries to: The Editor, Journal of the Canadian Dental Association.

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Announcements

NOVEMBER/NOVEMBRE

November 8-11: The Saul Kamen Seminar in the Management and Treatment of the Developmentally Disabled Dental Patient, at the Jewish Institute for Geriatric Care, New Hyde Park, New York. Contact: Ann J. Boehme, Associate Director for Continuing Education, Long Island Jewish Medical Center, New Hyde Park, New York, 11042. (718) 470-8650.

November 11-13: First International Congress on Oral Cancer, Singapore. Special features include Reconstructive and Microvascular Surgery. Speakers include Professor Westbury of Royal Marsden Hospital, U.K. and Professor Hugo Obwegeser of Switzerland. Contact: Dr. N. Ravindranathan, Organizing Secretary, First International Congress in Oral Cancer, Department of Oral and Maxillofacial Surgery, Faculty of Dentistry, National University Hospital, Lower Kent Ridge Road, Singapore, 0511.

November 13: A Conference on Drug, Alcohol and Stress Problems in the Health Professions at l'Hotel, Toronto, Ontario. Is there someone you know or work with who is experiencing difficulty with stress/burn-out and/or drug or alcohol dependency problems? This conference will enable you to solve this dilemma of how you can help this person in distress. . . For information, contact: Michel Chevalier, Executive Director, Ontario Health Professionals Assistance Program, 133 Richmond St. W., Suite 501, Toronto, Ont. M5H 2L3 or (416) 360-7976.

November 15-18: Healthy Ontario 2000: Enabling, Advocating, Mediating. The Ontario Public Health Association's 38th Annual Educational and Scientific Meeting. For information, contact: OPHA, Suite 201, 102 Adelaide St. E., Toronto, Ont. M5C 1K9 or telephone (416) 367-3313.

November 18-20 Vancouver, **November 22-24** Toronto and **November 25-27** Halifax Shaping the Future: New Direction and Intervention Models. A national forum on long term care sponsored by the Canadian College of Health Services Executives and the Canadian Long Term Care Association. For information, contact: Canadian College of Health Services Executives, 17 York St., Suite 201, Ottawa, Ont. K1N 5S7 (613) 235-7218

November 19, Oahu, **November 20**, Kauai: **An update on Pain Control and Emergency Medicine in Dentistry**, sponsored by the Hawaiian Dental Association. Contact the Continuing Education Committee of the Association at: 1000 Bishop Street, Suite 805, Honolulu, Hawaii, 96813.

November 19-22: XIX National & International Congress of the Dental Association of Mexico in Mexico City. Contact: Federacion Nacional de Colegios de Cirujanos Dentistas, Ezequiel Montes No. 92, Col. Revolucion, Delegacion Cuauhtemoe, 06030 Mexico D.F. 566-61-33.

Novembre 21-25: Festival international du Film et de la Vidéo dentaires–XIèmes Journées dans le cadre du Congrès International de l'Association Dentaire Française. Bulletins d'inscription au concours devront parvenir au Secrétariat avant le 15 février 1988. Renseignements et inscriptions: Dr. M. Dolovici, Secrétaire générale du Festival international du Film et de la Vidéo dentaires, 92 avenue de Wagram, 75017 PARIS.

November 26: Toronto Academy of Dentistry's 50th Annual Winter Clinic, Metropolitan Toronto Convention Centre, 255 Front Street West, Toronto, Ontario. Contact: Academy of Dentistry at (416) 967-5649.

November 27: Practice Management, Royal York Hotel, Toronto. Chuck Sorenson, lecturer. Fee: AGD members $125, non members $200. Contact: Dr. Marotta (416) 735-3310.

JANUARY/JANVIER 1988

January–April: Dental Refresher Program Contact: Continuing Education in Health Sciences UCLA Extension, 10995 Le Conte Avenue, Room 614, Los Angeles, California 90024 (213) 825-9187.

January 8: Dr. Gordon Christensen, "Dentistry Update" presented by the Ottawa Society for the Prevention of Dental Disease at the Talisman Motor Hotel, Ottawa, Ontario. Contact: Dr. D. O'Connor, 225 Metcalfe St., Suite 401, Ottawa, Ontario K2P 1P9.

January 16-23: 18th International Alpine Dental Conference at Hotel Annapura, Courchevel, France. For information, contact: International Dental Foundation, 24 Cadogan Square, London SW1X 0JP England.

January 19-23: Hawaii Dental Association's 85th Annual Scientific Session, Hilton Hawaiian Village Hotel, Honolulu, Hawaii. Contact the Association at (808) 536-2135.

January 21-24: 13th Annual Yankee Dental Congress in Boston Massachusetts. Over 125 scientific sessions and 400 technical exhibits. For information: Massachusetts Dental Society, 83 Speen Street, Natick MA 01760-4125 or call (617) 651-7511.

January 22-23: Computer Basics and Dentistry with Dr. W. Curtis Wise at the College of Dental Medicine, the Medical University of South Carolina. For information, contact: Dr. Gordan Stine, Director, Dental Continuing Education, Medical University of South Carolina, 171 Ashley Ave., Charleston, S.C. 29425-2601.

January 23-30: 19th International Alpine Dental Conference at Hotel Sofitel, Val d'Isere, France. For information, contact: International Dental Foundation, 24 Cadogan Square, London, SW1X 0JP England.

January 28-30: Miami Winter Meeting – A Climate for Excellence, Miami, Florida. Table Clinic applications are available. Contact: Dotti DuBreuil, East Coast District Dental Society, 420 South Dixie Highway, Suite 2-E, Coral Gables, Florida, 33146. (305) 667-3647.

January 28 – February 1: 13th Asian Pacific Dental Congress and 42nd IDA Conference, New Delhi, India. Theme Esthetic Dentistry. Contact: Secretariat, C-56, N.D.S.E. – II, New Delhi 110 049.

January 29-31: Periodontal Surgery – A Didactic and Laboratory Exercise at the Royal Plaza at Walt Disney World, Orlando, Florida. For information, contact: Dr. Gordan Stine, Director, Dental Continuing Education, Medical University of South Carolina, 171 Ashley Ave., Charleston, S.C. 29425-2601.

FEBRUARY/FÉVRIER 1988

February 10-13: Sports Medicine – For All Practitioners Course in Scottsdale, Arizona sponsored by the American College of Sports Medicine and the Children's Medical Center, Oakland, California. Contact: Stuart Zeman, M.D. Course Chairman, 2999 Regent St. #203, Berkeley, California 94705 U.S.A. (415) 540-8686.

February 13: Implants as Related to Periodontics with Dr. Stanley Ross at the College of Dental Medicine, the Medical University of South Carolina. For information, contact: Dr. Gordan Stine, Director, Dental Continuing Education, Medical University of South Carolina, 171 Ashley Ave., Charleston, S.C. 29425-2601.

February 19: Scientific Session of the Academy of Dental Materials, Hillenbrand Auditorium, American Dental Association, Chicago, Illinois. A poster session is planned. For information concerning this contact Dr. Evan Greener, Dept. of Biological Materials, Northwestern University Dental School, 311 E. Chicago Avenue, Rm. 10-019, Chicago, Illinois, 60611, USA. For information concerning the meeting phone (312) 908-6887 or (312) 642-9570.

February 19-20: Orthodontics in an Aging Society The Fifteenth Annual Symposium on Craniofacial Growth at the University of Michigan at Ann Arbor. For registration or more information, write to: Cranifacial Biology, The University of Michigan, 1024 Kellogg-Dental, Ann Arbor, Michigan 48109-1078.

February 20-27: Virgin Islands Dental Association Meeting Speakers: Dr. Ron Jordan – restorative, Dr. Gary Taylor – endodontics, Dr. Merril Menser – implantology. Social and spouse program. For information, registration and group rates at this limited attendance convention, contact: Dr. Robert Brandon, 85 Lonsdale Drive, London, Ont. N6G 1T4 (519) 657-3368.

February 21-24: 123rd Chicago Midwinter Meeting, Theme: "Values and Visions in Dental Practice." Contact: Chicago Dental Society, 30 North Michigan Ave, Chicago, Illinois 60602. Telephone (312) 726-4076.

February 26: Course by Dr. Terry Donovan, Contemporary Restorative Dental Materials – The pursuit of excellence. Calgary and District Dental Society. Contact: Dr. John Thompson 13 – 755 Lake Bonavista Drive S.E., Calgary, Alberta T2J 0N3. (403) 271-2777.

February 27: Dentistry for the Immunodebilitated Patient – A New Frontier with Dr. Joseph M. Poland at the Omni Hotel, Charleston. For information, contact: Dr. Gordan Stine, Director, Dental Continuing Education, Medical University of South Carolina, 171 Ashley Ave., Charleston, S.C. 29425-2601.

February 27: Basic Dental Radiology at the College of Dental Medicine, Medical University of South Carolina. For information, contact: Dr. Gordan Stine, Director, Dental Continuing Education, Medical University of South Carolina, 171 Ashley Ave., Charleston, S.C. 29425-2601.

MARCH/MARS 1988

March 11-15: International Association for Dental Research meeting, Montréal, Québec. Contact: International Association for Dental Research, 1111 14th Street N.W., Suite 1000, Washington, D.C., 20005. (202) 898-1050.

March 19-26: 20th International Alpine Dental Conference at Hotel Sofitel, Val d'Isere, France. For information, contact: International Dental Foundation, 24 Cadogan Square, London, SW1X 0JP England.

APRIL/AVRIL 1988

April 9: Update – The Medically Compromised Patient with Dr. Barbara Steinberg at the Medical University of South Carolina. For more information, contact: Dr. Gordan Stine, Director, Dental Continuing Education, Medical University of South Carolina, 171 Ashley Ave., Charleston, S.C. 29425-2601.

April 9-10: Update – Partial Denture Design at the College of Dental Medicine, Medical University of South Carolina. For information, contact: Dr. Gordan Stine, Director, Dental Continuing Education, Medical University of South Carolina, 171 Ashley Ave., Charleston, S.C. 29425-2601.

April 9-16: 21st International Alpine Dental Conference at Hotel Annapurna, Courchevel, France. For information, contact: International Dental Foundation, 24 Cadogan Square, London, SW1X 0JP England.

April 14-17: California Dental Association's Spring Scientific Session, Anaheim, California. Contact: Cissie Cooper, 818 'K' Street Mall, Post Office Box 13749, Sacramento, CA, 95853-4749, (916) 443-0505, (800) 421-8702.

MAY/MAI 1988

May 15-20: 25th Australian Dental Congress, Sydney, Australia. "An international meeting during Australia's bicentennial". A limited number of brochures are available at the CDA, or contact: 25th Australian Dental Congress, P.O. Box 29, Parkville, Victoria, Australia, 3052.

May 20-22: Periodontal Surgery – A Didactic and Laboratory Exercise at the College of Dental Medicine, Medical University of South Carolina. For information, con-

tact: Dr. Gordan Stine, Director, Dental Continuing Education, Medical University of South Carolina, 171 Ashley Ave., Charleston, S.C. 29425-2601.

May 27-28: The Human TMJ — A Didactic Exercise with Dr. James River and Dr. Richard Dom at the College of Dental Medicine, Medical University of South Carolina. For information, contact. Dr. Gordan Stine, Director, Dental Continuing Education, Medical University of South Carolina, 171 Ashley Ave., Charleston, S.C. 29425-2601.

JUNE/JUIN 1988

June 2-5: 88th Annual Conference of the Canadian Lung Association at Hotel Newfoundland, St. John's, Newfoundland. For information, contact: A. Les McDonald, Director, Health Education and Program Services, Canadian Lung Association, 75 Albert St., Suite 908, Ottawa, Ont. K1P 5E7 or tel. (613) 237-1208.

June 3-4: Operative Dentistry at the College of Dental Medicine, Medical University of South Carolina. For information, contact: Dr. Gordan Stine, Director, Dental Continuing Education, Medical University of South Carolina, 171 Ashley Ave., Charleston, S.C. 29425-2601.

June 3-5: Annual Meeting of the Canadian Academy of Periodontology at the Pan Pacific Hotel in Vancouver British Columbia. The featured speaker is Dr. Jan Lindhe. For information, contact: Dr. E. Chesko, 104-520 17th St. West Vancouver, B.C. V7V 3S8, (604) 922-4711 or Dr. K. McAnulty, 304-126 E. 15th St., North Vancouver, B.C. V7L 2P9, (604) 980-5822.

JULY/JUILLET 1988

July 1-3: British Dental Association's Annual Conference, Harrogate International Conference Centre, Harrogate, Yorkshire (UK). ''Facing the Future''. Contact: Linda Bridges, Conference Office, 64 Wimpole St., London, England. W1M 8AL.

AUGUST/AOÛT 1988

August 7-11: Ninth Congress of the International Association of Dentistry for the Handicapped, Philadelphia, PA. Contact: Public Relations, (215) 576-2303, Abington Memorial Hospital, Abington, PA. 19001.

August 21-24: Canadian Dental Association's Annual Convention, at the Edmonton Convention Centre, Edmonton, Alberta. Contact: Linda Teteruck, Canadian Dental Association, 1815 Alta Vista Dr., Ottawa K1G 3Y6. (613) 523-1770.

August 21-25: New Zealand Dental Association's Biennial Conference, Christchurch, New Zealand. Contact: Dr. E.A. Cope, Conference Secretary, 200 Cashel Street, Christchurch 1, New Zealand.

SEPTEMBER/SEPTEMBRE 1988

September 7-9: Bristol 88 World Dental Conference University of Bristol, England, U.K. Decisions in Forward-Looking Oral Health Care. For information contact: Mr. B.P. Matthews, Bristol 88 World Dental Conference, University of Bristol, Senate House, Bristol BS8 1TH ENGLAND, U.K.

September 23-25: California Dental Association's Fall Scientific Session, San Francisco, California. Contact: Cissie Cooper, Director, Scientific Sessions, CDA, 818 ''K'' Street Mall, P.O. Box 13749, Sacramento, California, 95853-4749. (916) 443-0505.

OCTOBER/OCTOBRE 1988

October 9-14: International Workshop on Cranio-facial Trauma sponsored by the Australian Cranio-Maxillo-Facial Foundation. For information, contact: Mrs. D. Moody, Executive Officer, 226 Melbourne St., North Adelaide, S.A. 5006, Australia.

October 25-27: Medical/Hospitech 88 — 2nd International Medical, Hospital and Dental Equipment and Facilities Exhibition in Bangkok, Thailand. For more information, contact: SHK International Services Ltd., 22/F., 151 Gloucester Rd., Hong Kong. Telephone: 5-8326100.

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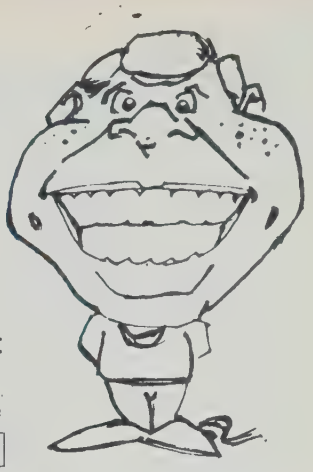

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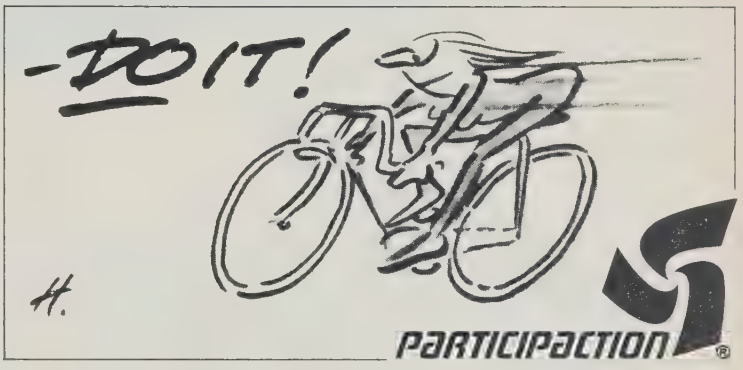

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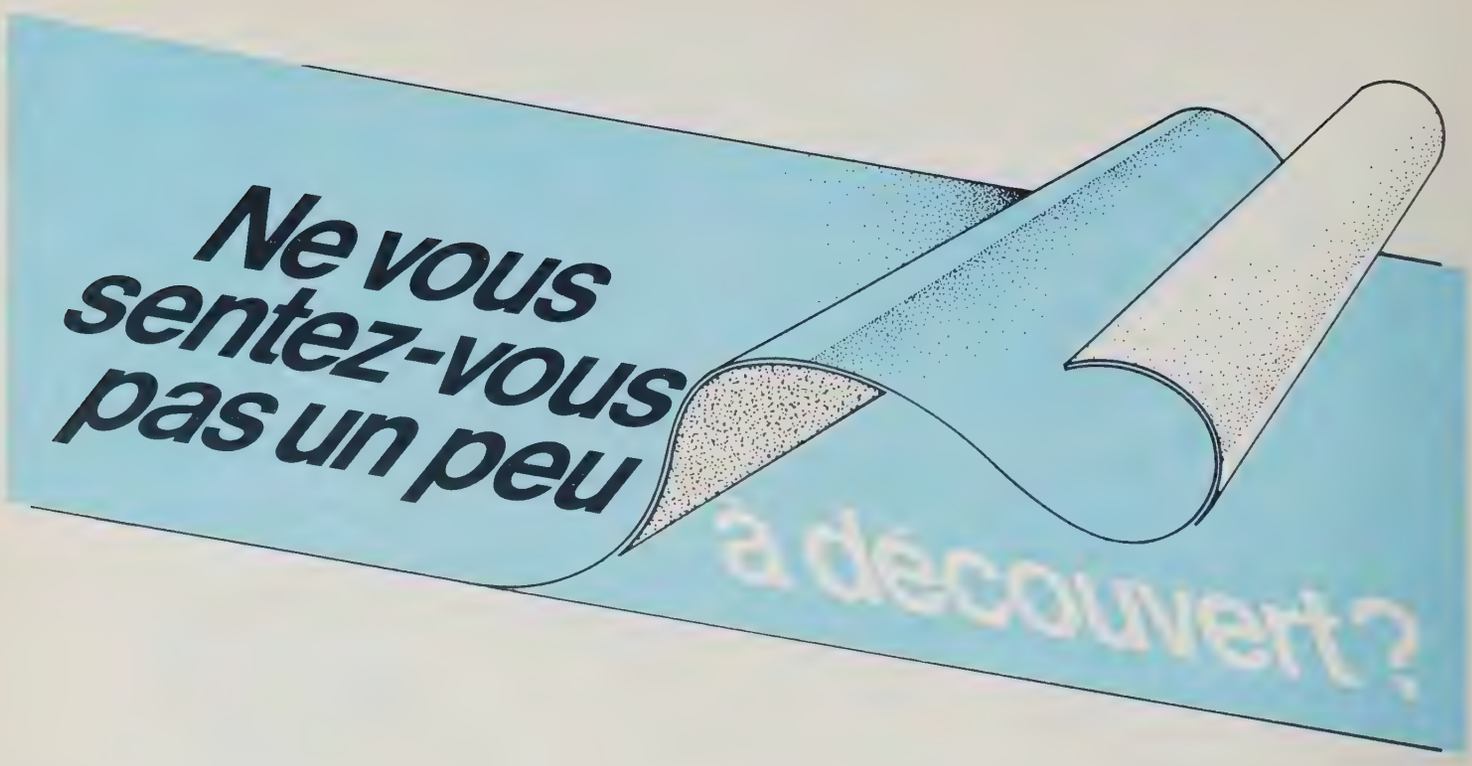

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NORTHERN NEW BRUNSWICK: Busy, growing family practice for sale. Well equipped office on street level with two operatories. Owner leaving province but willing to associate for smooth transition. Reply CDA Box 2383.

NOVA SCOTIA—Halifax—Established downtown general practice for sale, located in central business district. Sale includes share of modern equipment, sundries, and term lease of office space. Practice includes a large recall clientele, (mostly adult). Suitable for an experienced operator or two graduates. Apply to Box CDA 2327.

NEW ZEALAND: Dental Practice for sale. Rural North Island, New Zealand. Close to major centres and good beaches. Ideal opportunity. Realistic price $60,000 NZ ($49,800 Canadian). For further information please write to: Ken Thurston, 44 Rutherford St., Hamilton, New Zealand or telephone 00647151119.

ASSOCIATESHIP AVAILABLE

BRITISH COLUMBIA—Burnaby (Vancouver Suburb): Busy Practice requires associate. Current associate leaving, remaining dentist too busy to handle it all. This modern preventive practice is 15 minutes from downtown Vancouver. Please contact: Dr. Leonard A. Chow (604) 299-8491.

BRITISH COLUMBIA—Cresta Dental Centres: Excellent associateship or practice purchase opportunities available immediately. VICTORIA – Retail dental centre established in high residential area. New patients average 100 per month. Modern 6 operatory clinic with refreshing and inviting decor. Computerized. Very high gross. Ideal for 2 dentists or 1 exceptionally high producer. Maximum potential is still to be achieved, 10 year lease. PRINCE GEORGE – Retail dental centre in largest shopping mall in Central British Columbia. High new patient flow well run recall system with efficient and effective management. High gross; approximately 80% insurance; 10 year lease. Office decor modern and inviting, new equipment. Phone: (604) 382-7603 or (604) 381-6433.

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ALBERTA—Edmonton: ASSOCIATE WANTED – In well-established extended-hour practice, with opportunity for purchase in future. Excellent opportunity for an ambitious quality-oriented practitioner. Reply to CDA Box 2369.

ALBERTA—Edmonton: High gross practice requires associate. Partner is leaving city. The office is fully equipped and very cheerful with extensive large windows. Contact Dr. Azarko at 14938 Stony Plain Rd. (403) 483-7080.

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ONTARIO—Hamilton: Associateship available for a recent graduate or a graduating dentist. Office is general practice, well equipped and busy. This will be an excellent opportunity that hopefully will become a long term association. Reply to CDA Box 2382.

ONTARIO—Windsor: A fantastic opportunity is available for a general dentist seeking an associateship/partnership. Please phone: (519) 258-6505 (days) or (519) 966-2552 (evenings).

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NEWFOUNDLAND—Carbonear: Associate required for busy dental office located in health care centre. Hospital privileges available for general anaesthetic. Option for partnership and eventual purchase. Contact: Dr. R.D. Jones, P.O. Box 940, Carbonear, Newfoundland A0A 1T0.

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OPPORTUNITIES WANTED

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*International Journal of Oral Surgery; 1981, No. 10, p. 387–416, "A Fifteen Year Study of Osseointegrated Implants in the Treatment of the Edentulous Jaw," Table 5, p. 399, Group 2.

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JCDA COVER PHOTO

At this year's graduation ceremonies of the Dental Officer Training Plan at Canadian Forces Base Borden, Brigadier-General J.F. Begin, Director General Dental Services, officiated. Brigadier-General Begin is seen, left, in this month's cover photo presenting the Honour Candidate Award to 2Lt M.R. Schleining (centre) of the University of Manitoba, while 2Lt D.S. Harvey of the University of Western Ontario, who also received an Honour Candidate Award, looks on (at right).

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Editorial

SURVIVAL... THROUGH 'ORGANIZED' DENTISTRY

Survival.

This has long been recognized as one of the strongest of animal (and human) instincts. This sense has become increasingly important in today's hazard-filled world.

In their natural state, most animals become aware that their chances of survival are enhanced if they organize, into packs – and the rewards can be a strong incentive. They may have their spats, disagreements and jealousies, but collectively, they never lose sight of the benefits of being a member of a strong team.

Humans, however, tend to find a comfortable niche, often believing that nothing can ever disrupt their pleasant lifestyle or the successful practice of their profession.

Such a false sense of security is utter folly. Our natural instinct can become dulled and ineffective in an era when major changes, some rather frightening, make complacency a luxury a practitioner can no longer afford.

Those in the self-governing professions, enjoying the successes and rewards of autonomous practices, could lose that autonomy overnight, as a result of a politician's whim. Governments can also make life much more difficult and unattractive as a result of taxation on their incomes or a suddenly imposed tariff on dental materials.

A strong team maintaining open lines of communication with pertinent federal government departments and agencies can deter potentially damaging legislation, and can actually result in having existing regulations rescinded.

It would certainly appear that a nation-wide effort will be needed in the interests of our actual physical survival, to fight the ever-increasing threat of AIDS and other hazards such as hepatitis B.

That strong "team" already exists – the Canadian Dental Association. The CDA is quite capable of achieving major successes in many of these areas. It already has the respect of many federal government bodies.

But to have a truly powerful impact and high level of credibility, that national body must have as close to 100 per cent of its potential membership as possible – to speak as the official voice of the profession – and to achieve great benefits for Canadian dentists.

The CDA also needs that strength to maintain such vital services as:

- Accreditation
- The CDA Resource Centre/Library
- CDSPI – Insurance, RSPs
- Dental Awareness Program
- Certification Program – Dental Materials
- Review of Occupational Health Hazards
- Dental Research and Education
- Continued Governmental Liaison

Certainly there are occasional disagreements and spats within dental ranks, and sadly, they sometimes cause us to lose sight of the benefits of being a member of a strong team.

We will never all agree all of the time on all the issues.

But surely there should be no dispute about the value of a strong national voice.

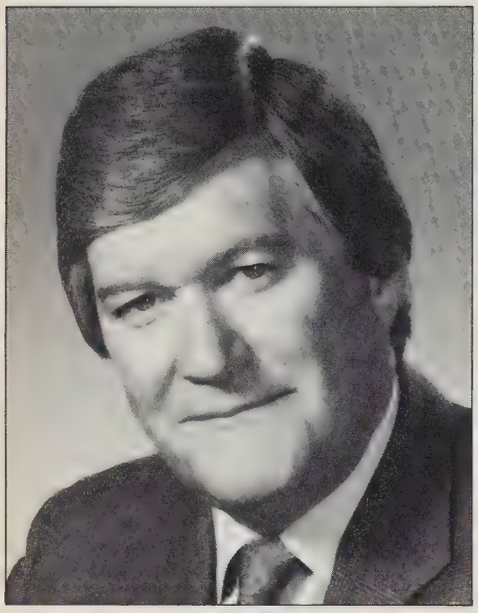
Becoming a member of the Canadian Dental Association can be such an easy task – but it can be one of the most important actions you can take as an individual in the interests of the future well-being of the dental profession in Canada.

Dr. Gilles Dubé
Lachute, Québec
Chairman: CDA Membership Committee

All statements of opinion and supposed fact are published on the authority of the author who submits them and do not necessarily express the views of the Canadian Dental Association, unless such statements or opinions have been adopted by the Association. The editor reserves the right to edit all copy submitted to the Journal.

EXECUTIVE DIRECTOR'S REPORT ON THE 1987 ANNUAL MEETING OF THE CDA BOARD OF GOVERNORS
Highlights and Principal Decisions

The following is a report highlighting events of the Annual Meeting of the CDA Board of Governors, held in Ottawa on September 11-12, 1987.



Mr. A. Jardine Neilson

1988 Budget

Executive Council presented a provisional 1988 budget for Board approval. A balanced budget for 1988 is an objective stressed and endorsed by Executive Council. All program and activity areas are being reviewed towards achieving this goal.

Areas identified to date for re-structuring or reduced activity include the Council on Ethics, the Salaried Dentists Committee, the Roles and Responsibilities Committee and the Council on Health Care. The Board approved the restructuring of the Council on Health Care to a Committee of the Executive Council, utilizing the current Executive Committee of Health Care as an interim core. The structure of the Health Care Committee will be reviewed to ensure a mechanism for input from corporate members and auxiliary associations.

Governors approved a provisional budget for 1988, pending a further review at the 1988 Fall planning session of Executive Council. A balanced budget totalling approximately $4,000,000 has been projected.

Payment of Fees — Corporate Members

Following discussion at the 1987 Interim Meeting, timing of the payment of fees by Corporate Members has been reviewed. Information received from Corporate Members on their ability to remit fees by specified dates has been considered.

A proposal outlining the requirements for submission of fees as it relates to the count for Board seats, was presented for Board approval. The proposal indicates that the number of paid up active members of CDA, together with licensed life members, as of July 31 of the current year, will guarantee the count for Board seats for the Annual, and next-following Interim Meeting of the Board. Previous year's figures may be used given that, by July 31, fees for the current year are paid based on these previous years figures. Only those active members paying the full CDA fee will be counted, with the exception of provisions outlined in CDA policies for the payment of fees for student graduates and first-time CDA members. Governors approved the proposal as presented, and directed the Council on Constitution and By-Laws to incorporate this policy in the CDA By-Laws.

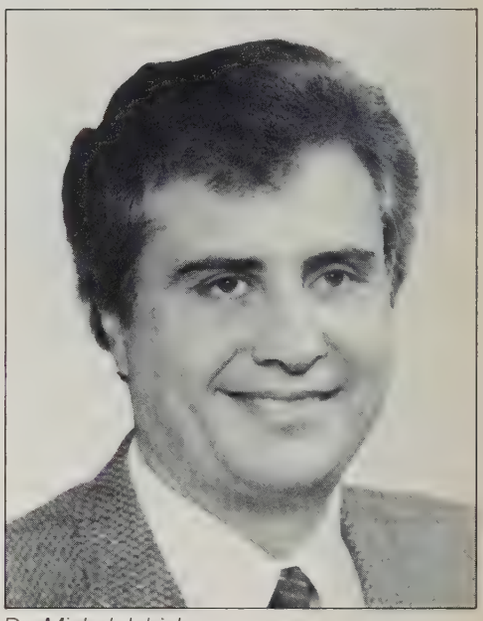
Corporate Members and Licensing Body Fees

At the present time, CDA By-Laws do not contain reference to the Corporate Member or Licensing Body fees. Governors directed the Council on Constitution and By-Laws to incorporate specific information on these fees in the CDA By-Laws.

CDA CONVENTIONS

Newly-defined objectives for CDA conventions, and terms of reference for the General Chairman and Committee Members have been approved by Executive Council.

Dr. Michel Jahjah was introduced to the Board as CDA's General Chairman for Conventions. Dr. Jahjah outlined briefly, plans for future CDA Conventions, and his commitment to the objective hereunder;



Dr. Michel Jahjah

The objective of the CDA Conventions:

1. To draw a consistent number of dentists to all conventions, wherever they may be, with a minimum objective of nine hundred dentists (900), and a long term objective of two thousand dentists (2000) by the year 1990.

2. To increase the number of exhibitors, in order to secure revenues for the convention. The presence of a respectable number of dentists will make it easier to sell the convention to exhibitors.

3. To place the financing of conventions on a cost recovery basis over the short term; the long term objective is to position the CDA Convention as a revenue-generating activity.

4. To become an important P.R. vehicle for the Canadian Dental Association at which CDA services are promoted. The convention itself should also be perceived as a visible membership service.

1987 CDA Convention — Montreal

Congratulations are in order to all those involved in the Joint CDA/ODQ Convention held in Montreal on May 24-28, 1987. Total registration was 7,913 which included 2,915 dentists, of whom 329 were from outside the province of Quebec. Executive Council has extended special thanks to Convention Chairman, Dr. Michel Jahjah and ODQ President, Dr. Marc Boucher.

1988 CDA Convention — Edmonton

Plans are well advanced for the CDA 1988 Convention in Edmonton, August 21-24. A theme and logo have been developed for the meeting. All promotional materials will carry the theme "Come West — Take home a Smile". The 1988 Annual Meeting of the Board of Governors will be held August 19 and 20, with the Installation Dinner scheduled for Friday evening, August 19.

1989 — Vancouver

The new Vancouver Trade and Convention Centre will be the home of the 1989 CDA Convention in Vancouver, August 27-30, 1989. The 1989 Annual Meeting of the Board of Governors will be held at the Pan Pacific Hotel August 25-26. The 1989 Convention will be under the Chairmanship of the new General Chairman — Dr. Jahjah.

FDI National Treasurer

An amendment to the existing terms of reference for the FDI National Treasurer was approved by Governors. The amendment eliminates the current stipulation for a four year maximum term. Annual appointment by the Board of Governors will remain a requirement.

The Board re-appointed Dr. Robert N. Hicks to his fourth term as Canadian National Treasurer.

National Strategy — Dental Hygiene

Following direction received from the Board of Governors, the Executive Council has approved the formation of a study group to develop a CDA position on Dental Hygiene. Dr. Kevin L. Roach, Executive Council member from Ontario, Dr. Donald E. MacFarlane, Executive Council member from British Columbia, and Mr. Brian Henderson, Director of Education and Accreditation, have been named as members of the study group.

Professional Resource Utilization

Discussion is ongoing within the dental faculties on reduced enrolment for 1987-88 and 1988-89. Decision in this regard rests with the funding authority of each university.

During discussion at a meeting held February 21, 1987 with the deans of dental faculties, the feasibility of a federal government commission to examine and plan future oral health needs for Canadians was introduced. The principle underpinning this suggestion was the desirability of an objective recommendation of an independent commission of study, if closure of a school was to become a possibility. An outline of the terms of reference for the proposed Commission has recently been received from Dr. George Beagrie. The Executive council has expressed concern with several items outlined in the terms of reference, in that it is felt that they fall within the competence jurisdiction of the profession.

Further discussion with the Deans is anticipated at the time of the CDA Teaching Conference this fall. Advice is being sought on the feasibility of an epidemiological study to address the perceived lack of an adequate decision-making data-base in the manpower reports commissioned to date.

Geriatric Dentistry

Following the 1987 Interim Meeting of the Board, input was requested on CDA's role in Geriatric Dentistry. Response is incomplete at this time and this topic, including a situation analysis, will be reviewed at the Executive Council Fall Planning Session. The Executive Council considered it necessary to appoint a CDA spokesperson on Geriatric Dentistry to address information needs directed to CDA in this area of ever-increasing interest and concern. The Board of Governors approved the appointment of CDA Immediate Past-President Dr. John R. Robertson to fill this role.

Government Relations Committee

The Board approved revised terms of reference and a new structure for the Government Relations Committee. Terms of reference include coordination of government-related activities pertaining to all aspects of government policy development and administration in the area of oral health, and working toward the goal of having CDA recognized as the authoritative national voice of Canadian dentistry in federal government policy and program matters. The new structure calls for a Chairperson, one additional member and the Executive Director, to be members of the Committee. CDA President Dr. Ron J. Markey, has appointed Dr. Jack Gryfe of Weston, Ontario as Chairman; Dr. Elizabeth MacSween of Gloucester, Ontario has been appointed as a member.

Policy Advisory Committee — National School of Dental Therapy

The first meeting of the Policy Advisory Committee of the National School of Dental Therapy was held in Prince Albert on May 20, 1987. Topics of discussion included the placement of new graduates, the development of the preventive dental therapist concept, and expansion of the Committee to include dental therapist and native representation.

Governors were informed on the positive, cooperative attitude which exists among members of the Committee, which augers well in terms of future discussions and decisions.

Tax Reform

Dr. Robert N. Hicks, Chairman of the Taxation Committee reported on a meeting of the Joint Professional Committee held July 10, 1987, called for the purpose of discussing various issues arising from the recently announced Tax Reform proposals. Representatives of the Canadian Bar Association, the Canadian Medical Association and the Canadian Institute of Chartered Accountants were in attendance.

A brief on behalf of the four professional associations has been submitted to the House of Commons Standing Committee on Finance and Economic Affairs, and the Senate Standing Committee on Banking, Trade and Commerce, addressing concerns with Phase 1 of the Tax Reform Proposals which deal with Income Tax Reform. Three areas of concern were identified:

A. Registered Retirement Savings Plans

The proposals identify a further delay in implementing the October 1986 schedule for increasing allowable tax-assisted contributions to R.R.S.P.s.

Since the Joint Professional Committee was significantly involved in convincing the federal government to increase the amount of R.R.S.P. allowable contributions, the brief expressed concern that the October 1986 schedule has been delayed twice since its acceptance.

B. Automobile Expenses

It is proposed that full business automobile expenses will only be allowed if a vehicle is used 90 per cent of the time for business purposes. With less than 90 per cent business use, the expenses allowable for taxation purposes will be greatly reduced. This item will impact on practice expense of lawyers, accountants and medical practi-

tioners. Therefore, the Committee agreed to include this issue in the presentation to the Standing Committees.

C. Goodwill

In the income tax reform proposals, lifetime capital gains exemption for individuals will be limited to $100,000. However, a capital gain on the disposition of a share of a small business corporation will be eligible for a $500,000 exemption, where the shares are not held by anyone other than the taxpayer, or persons related to him or her throughout the immediate preceeding 24 months.

In provinces where incorporation of professional practices is permitted, these small business corporations will be eligible for the $500,000 capital gains exemptions, when the practice is sold and the goodwill portion of the sale is calculated. However, self-employed practices will only be able to apply a lifetime maximum of $100,000 capital gains exemption.

The proposal made to the Standing Committees requests that the $500,000 exemption should apply to the goodwill factor when a self-employed professional practice is sold, since incorporation is not permitted in all provinces in Canada.

Information received from federal government officials indicates that decisions on a new federal sales tax system would not be finalized until after the next federal election.

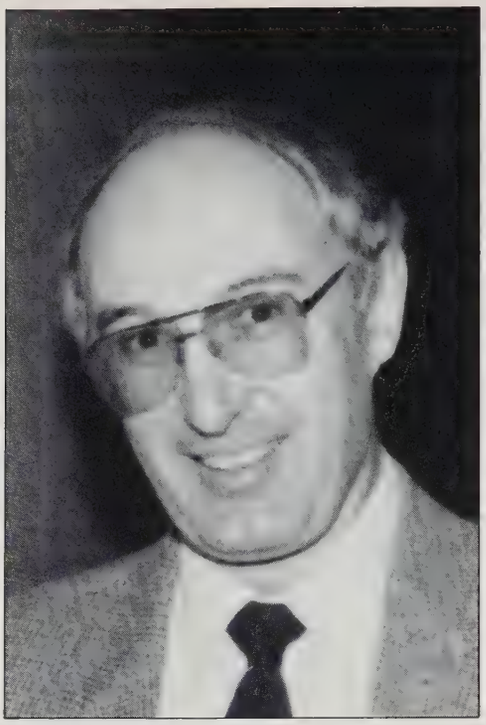
It has been identified in the White Paper on Tax Reform that all health services funded by federal or provincial governments will be exempt from federal sales tax. However, private hospitals and individual practitioners would be taxable on amounts received in receipt of services that are not insured under public (government funded) plans. Medical and dental practitioners practising under public funded plans will be liable for federal sales tax on business input items.

The Taxation Committee continues to monitor the sales tax reform area for appropriate response on the proposal to tax health care.

Terms of Office – CDA President and Elected Officials

At the 1987 Interim Meeting, Governors approved a change to the terms of office for the CDA President and Elected Officials, and directed the Council on Constitution and By-Laws to prepare the necessary amendments to the By-Laws.

At the request of the Executive Council, the Board rescinded this policy, as action to delay the assumption of office by the President following the Annual Meeting of the Board is seen to be counter-productive.



Dr. J.W. Niedermayer

Election – President-Elect

Dr. Jack Niedermayer of Regina was elected by the Board of Governors as President-Elect. Dr. Niedermayer joins the Management team of Dr. Ron J. Markey, CDA President and Dr. John R. Robertson, Immediate Past-President.

Canadian Dental Foundation/ Canadian Fund for Dental Education

At the 1987 Interim Meeting, the CDA Board of Governors approved the establishment of the Canadian Dental Foundation, to allow members to make tax deductible donations or bequeath funds, which in turn would benefit specific areas of interest of the CDA. Discussions with Revenue Canada are ongoing on their approval of charitable status for the CDF. Concern has been expressed by the Board of Trustees of the Canadian Fund for Dental Education on possible adverse effects on the ''Fund''. A CFDE request for Board approval of a name change to ''Canadian Fund for Dental Health'' was denied, pending further investigation of the role of the CDF. Governors expressed their support for both the CFDE and the CDF targetting a harmonious relationship between the two, with the goal of increased financial support of the profession.

Management of the Life Plan Surplus

As directed by Executive Council, the Council on Insurance and Investment presented motions to the Board of Governors concerning the management of the Life Plan Surplus. Four alternatives for distribution of the surplus were presented, one of which, ''Program Enhancement'', was recommended.

The following recommendations of the Council on Insurance and Investment were endorsed by Governors:

☐ A 15 per cent rate increase to CDIP LTD Annual Premiums, effective January 1, 1988.

☐ LTD program renewal for a period of one year, with the following special contract considerations:

• The special draw down at the end of 1987 will be computed with reference to the new open claims reserve basis under the LTD. However, an allowance of $600,000 will be given for the change in the reserve basis that occurred at the end of 1986.

• There will be a further contingent draw from surplus at the end of 1988, which will be *the lesser of*:

a) 15 per cent of net 1988 LTD premium; or

b) the cumulative deficit under the combined disability account at the end of 1988, based on the new reserve basis.

☐ CDSPI will report on an annual basis to the CDA, concerning the portion of the combined experience and investment surplus to be held in reserve, and the portion available for distribution.

☐ A contingency reserve of $3,500,000 will be set aside to maintain financial stability in the plans. One million dollars of the $3,500,000 has been earmarked for distribution in the years 1989, 1990, and 1991, with the understanding that the CDA Executive Council and the CDA Board of Governors expects the Council on Insurance and Investment to report on and confirm the practicality of this approach, in terms of further experience.

☐ A sum of approximately $900,000 will be set aside in a special enhancement reserve to fund package improvements as follows:

1. Grad package	$100,000
2. 23.8 per cent distribution	$660,000
3. Elimination of pooling	$125,000
4. Increase of maximum coverage	$15,000

An agreement between CDA and CDIP Co-Sponsors dealing with the management of future surpluses was approved. The Agreement will take the form of an amending agreement to the 1987 Participation Agreement, and will be incorporated into the 1988 Participation Agreement.

CDIP Eligibility – Auxiliaries

The Board approved guidelines developed by the Council on Insurance and Investment for all non-licensed dentist applicants to the

Canadian Dentists' Insurance Program. The guidelines stipulate the following:

a) That new applicants would be eligible to join the Staff Plan only, based on working for an eligible employer for a minimum of twenty (20) hours per week.

b) Those currently in the Life, AD&D and LTD programs of the Canadian Dentists' Insurance Program may remain in the Program given premiums continue to be paid, but may not increase their current coverage.

c) An employee of any eligible dentist may participate in the CDIP Malpractice Plan.

d) An employee, in order to claim under either the Staff Plan or current CDIP coverage, must have dental income.

Malpractice Insurance — Hold Harmless Clause

As a result of direction received at the 1987 Interim Meeting of the Board, the Council on Insurance and Investment is reviewing the potential impact of a "hold harmless" clause, as contained in contracts for dentists joining capitation programs. Information has been requested from various sources in the United States, including the ADA Council on Insurance. An update will be provided at a future meeting of the Board.

CDA Journal Production

Based on a review of the financial position of the CDA Journal after five (5) months operation, production will be reduced to sixty-eight (68) pages as soon as operationally possible. The Publications Committee has been asked to review the requirement for the current number of monthly issues, and investigate the advantages of hiring an additional advertising salesperson.

CDA Uniform System of Codes and List of Services

The Third Party Dental Plans Committee presented a revised edition of the Uniform System of Codes and List of Services which was approved by Governors. This document represents a vast improvement over the previously-published version; the new list will benefit both dentistry and the insurance industry. The approved Uniform System of Codes and List of Services will be forwarded to the insurance industry and the provinces for required adjustment to their coding systems.

Dialogue in Dentistry

On June 13-14, 1987, representatives from across Canada attended a seminar organized by the Chicago Dental Society, specifically for Canadian dentists. The topic was "Dialogue in Dentistry", a highly successful purchaser contract program developed by Chicago area dentists, and currently being run by the CDS.

The CDA will investigate the possibility of a pilot project in conjunction with the provinces, under the auspices of the Dialogue in Dentistry Program. It is envisaged that funding for such a project would be shared equally between CDA and the provinces.

Public Awareness Campaign

The national public information campaign, outlining the merits of fee-for-service dentistry, through a booklet entitled "The Consumer's Guide to Dental Care", has met with considerable success. Over $400,000 has been raised from participating provinces in support of the campaign. The Council on Information Services has been asked to consider the "Guide" as part of the regular CDA pamphlet program.

Tartar Control Statement — CDA Seal of Recognition

The Board approved a statement prepared by the Committee for Consumer Products Recognition, providing clarification to the public on the application of the Seal of Recognition to tartar control toothpastes. The statement will apply to all tartar control products.

CDA Publications

Dr. John Hardie, Chairman of the newly formed Committee on Publications, presented information to the Board on the initial deliberations of his Committee. Plans call for a "revamped" Journal with significant changes to both layout and content. Improved readership, profile and financial viability of CDA's publications are priorities of the Publications Committee.

CDA/Certification Program for Dental Materials and Devices

The Council on Dental Materials and Devices reaffirmed its intention to continue to explore the possibilities of establishing a certification/quality assurance program. A joint program with the Canadian Standards Association is no longer being considered, as a result of the high cost involved. A sub-committee has been struck to explore the feasibility of a CDA-sponsored approval mechanism. Legal advice is being sought on CDA's potential liability under such a certification program. The Board will be kept informed of developments.

ADA/CDA Reciprocity Agreement

Discussion and negotiation has been ongoing with the American Dental Association on the subject of the reciprocal agreement to recognize graduates of accredited programs in either country, for the purpose of eligibility for licensure examinations in the second country. A written agreement did not exist in the case of predoctoral education programs and the American Dental Association Commission on Accreditation had raised the concern that graduates of accredited undergraduate programs in Dentistry in the United States were being treated differently from graduates of accredited Canadian programs, for the purpose of certification by the NDEB and subsequent licensure. The CDA Council on Education and Accreditation consistently took the position that graduates of accredited programs in either country should be eligible to write licensure examinations in the second country, without the need to complete additional educational requirements. A written agreement to this effect has now been proposed by the American Dental Association Council on Dental Education and Commission on Dental Accreditation, and the motions approving the agreement were adopted by the CDA Board of Governors.

Moratorium on Accreditation of Level 1 Dental Assisting Programs

A number of limitations have been identified in the ability of the accreditation process to serve as an adequate quality assurance process related to the preparation of dental assistants.

The Council on Education and Accreditation has established a Task Force on Future Planning, which will give consideration to the quality assurance role being played by the Council on Education and Accreditation, and on how the Council might discharge such responsibilities in future, recognizing the realities of finite human resources and funding. It is anticipated that the Task Force will confirm that a national certification process for dental assistants, linked to the Council, might be a more efficient and economic approach to quality assurance in the preparation of dental assistants. In the interim, the Council on Education and Accreditation believes that further involvement in the accreditation of Level 1 (Extra-oral) dental assisting programs should not be undertaken.

A motion introducing a one year moratorium on the accreditation of all Dental Assisting Level 1 programs was approved by Governors. The moratorium will be put into effect immediately.

CDA Policies and Guidelines

The Council on Health Care presented a report to Governors requesting approval of a policy on Tobacco Products and Health, Guidelines on Bacterial Endocarditis, and a statement on Hepatitis B and the Dentist.

The Board approved these documents,

which will be disseminated to the profession through the CDA Journal.

Minimum Life Support Guidelines, prepared by the Council on Hospital and Institutional Services, were approved by the Board.

CDA Fluoridation Spokesperson

Dr. Garry Jackson has been appointed as the CDA spokesperson on Fluoridation. Dr. Jackson is Director of Community Dentistry at Dalhousie University.

Infection Control

The Board received information on ''Recommendations for Prevention of HIV Transmission in Health Care Settings'', published August 21, 1987 by the U.S. Department of Health and Human Services, Public Health Service Centers for Disease Control, Atlanta, Georgia.

Health and Welfare Canada, through its Laboratory Centre for Disease Control will be adopting these guidelines for Canada. It is the intention of HWC to distribute this document to all public facilities as soon as possible.

The CDA, along with other interested national health associations, has been contacted by HWC seeking endorsement of the document, with particular reference to the section entitled ''Precautions for Dentistry''. The deadline for response is September 30, 1987.

While CDA's endorsement and comment on these recommendations may well be impossible by the deadline, it was considered imperative that the ''Recommendations for Prevention of HIV Transmission in Health Care Settings'' be sent to all dentists in Canada upon approval by Health and Welfare. Regardless of CDA's ability to endorse or comment in depth on the recommendations, Health and Welfare assistance will be requested on both distribution of the recommendations and financial support for a CDA Symposium on Infection Control and AIDS. Tentative plans are for CDA to sponsor a national symposium in early 1988. This symposium will bring together experts in the field of infection control and AIDS. It is expected that they will discuss the rapidly changing patterns in HIV and AIDS incidence, and the state of the art in infection control procedures. In the meantime, the CDA Committee on Health Care will communicate with a core group of experts in the infection control field, requesting comment on the recommendations from Atlanta and the current CDA guidelines on AIDS and Hepatitis B.

Dental Awareness Program

The Board of Governors reaffirmed its commitment to the DAP and approved a 1988 budget of $225,000; $75,000 is allocated to Dental Health Month and $150,000 to the DAP.

Colgate Palmolive has recently committed $1.5 million, over three years, to fund the ''First Teeth Project'' under the Good for Life Program.

CDA Awards

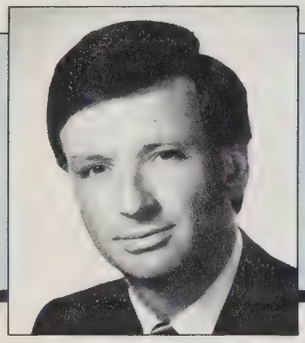
Awards were presented at a special luncheon honoring Past-Presidents of CDA and 1987 award recipients, held Friday, September 11 in Ottawa.

Dr. William R. Thompson of Trenton, Ontario was awarded Honorary Membership in the Canadian Dental Association.

The Distinguished Service Award was granted to Dr. James Douglas McLean of Bedford, Nova Scotia, for his service to the dental profession at both the provincial and national level.

The Canadian Dental Research Foundation Award was presented to Leonard Chumak, for his paper on ''An *In Vitro* Investigation of Lingual Bonding''. Dr. Chumak's research was conducted at the University of Western Ontario, and the Institutional Trophy has been awarded to the Faculty of Dentistry at Western.

Members of the CDA are invited to contact the Association if they require further information on any of the above items. Members are reminded that proceedings of the Interim and Annual meetings of the CDA Board of Governors are published annually as the CDA Transactions. Copies are available in the Fall of each year and are free of charge to members.



PRESIDENT'S COLUMN

Ron J. Markey, DDS, MSD
President of the Canadian Dental Association

DECEMBER, 1987

December is a good month to reflect and contemplate what has passed in 1987, and also look at dentistry in a larger context. As a President from Vancouver, there are extra opportunities to do this, as one flies over this immense country on so many occasions. As a matter of fact, this column is being penned on a flight from Vancouver to Toronto. The lead time required for much of our Journal content is several weeks, and this December column is scheduled for submission within two days. Since my wife and I are en route to the FDI meeting in Buenos Aires, the words you are reading will be telephoned to CDA Headquarters while we try to catch a connecting flight to South America. Due to a three hour delay in Vancouver, it will be tight going. We may make the connection; our luggage will possibly join us later in the week. Leaving this column is the only sure thing today. It will be worth it, however, because the opportunity to represent Canada at an international meeting is a unique opportunity that I wish every dentist could experience.

We have just returned from a similar few days at the American Dental Association meeting in Las Vegas where the reception we received and the treatment we were accorded was first-rate. The Canadian Dental Association has also undertaken joint projects in Haiti, St-Kitts, and Nevis. While our resources are limited, we are beginning to reach out where possible and lend a hand to countries less fortunate than ours. Canada has always had a long list of outstanding individuals who have participated at the international level on our behalf, and have enhanced the reputation of Canadian Dentistry in the process.

We have faced some difficult problems in 1987; but we are dealing with them. We have a profession and a national organization that is admired and envied internationally. We should be proud and grateful for what we have, and double our efforts in 1988 to protect and preserve the tradition of excellence that Canadian Dentistry has come to represent. My wish for 1988 is that many of our colleagues will join us and begin to appreciate what others from around the world already recognize. Canadian Dentistry does an excellent job.

Seasons Greetings.

DENTAL OFFICERS GRADUATE AT BASE BORDEN

The graduation ceremonies of the Dental Officer Training Plan Phase III Course candidates were held at Canadian Forces Base Borden in August. Brigadier-General J.F. Begin, Director General Dental Services, served as reviewing officer for the parade. Other distinguished guests for the occasion were: Brigadier-General (Retired) and Past President of the Canadian Dental Association Dr. W.R. Thompson, who serves as the Colonel-Commandant of the Dental Services; Dr. John Robertson, then President of the Canadian Dental Association; Dr. P.Y. Lamarche, Directeur général/ secrétaire Ordre des dentistes du Québec and Major (Retired) G.C. Hunt, President of the Royal Canadian Dental Corps Association.

Awards Presented

Graduation certificates and awards were presented during the ceremonies by Brigadier-General Begin. This year, the Honour Certificate Award was presented to 2Lt D.S. Harvey, of the University of Western Ontario and 2Lt M.R. Schleining, of the University of Manitoba. The Field Exercise Award was won by 2Lt D.M. Lemon of the University of Manitoba.

Training Program

Phase III DOTP training consists of two components. Part A Phase III training consists of "hands on" clinical experience at military dental detachments at Canadian Forces Bases across Canada. Part B Phase III training is conducted at the Canadian Forces Dental Services School, CFB Borden, Ontario. This is a five week program designed to familiarize the candidates with the administrative and management procedures applicable to the Canadian Forces Dental Services. Included in the training is a week long field exercise where the candidates are given land environment training and are taught the skills required to provide dental treatment in a mobile dental clinic.

Graduates

The twenty-one graduates of the Dental Officer Training Plan Phase III Course include:

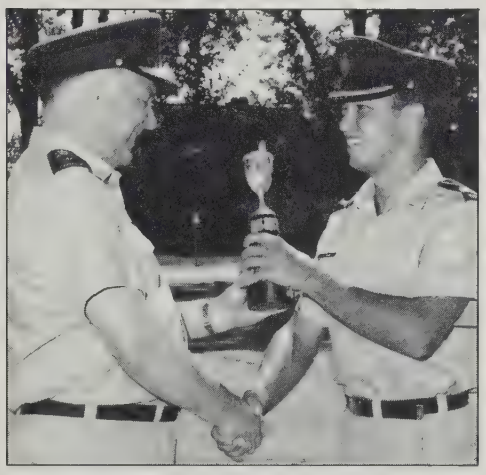
Capt G. Ford – Dalhousie University
Capt G. Habeck – University of Manitoba
Capt S. Hymovitch – McGill University
Capt W. Underwood –
University of Saskatchewan
2Lt P.J. Broderick – McGill University
2Lt L.A. Brown – McGill University
2Lt S.M. Caisley – Dalhousie University
2Lt J.M. Daguiam – University of Toronto
2Lt J.J.D. Fortin – Université de Montréal
2Lt J.J. Frizzell – University of Toronto

Brigadier-General J.F. Begin, Director General, Dental Services, with guests (left to right): Dr. William R. Thompson, Colonel Commandant, CF Dental Services; Dr. John Robertson, (then President of the Canadian Dental Association); Brigadier-General Begin; Colonel E.D. Cragg, Commandant of the Canadian Forces Dental Services School; Dr. Pierre-Yves Lamarche, Directeur-Général/Secrétaire, Ordre des dentistes du Québec and Major (Retired) G.C. Hunt, who is President of the Royal Canadian Dental Corps Association.

2Lt C.K. Greiner – University of Manitoba
2Lt D.S. Harvey –
University of Western Ontario
2Lt G.T. Joyce – University of Manitoba
2Lt D.M. Lemon – University of Manitoba
2Lt H. Louie –
University of British Columbia
2Lt M.J.A. Matheson –
Dalhousie University
2Lt J.J.M. Robert – Université de Montréal
2Lt M.R. Schleining –
University of Manitoba
2Lt T.J.C. Vesz – University of Toronto
2Lt A.F. Wheeler –
University of Western Ontario
2Lt C.J. Whiting – Dalhousie University

Mess Dinner

One of the highlights of the graduation ceremonies was the mess dinner, held the evening prior to the parade. The evening included an address by then President of the Canadian Dental Association, Dr. J. Robertson, to the graduating candidates. Dr. Robertson, a graduate of the Dental Officer Training Plan and a dental officer prior to his entrance into private practice took the opportunity to highlight the merits and responsibilities of both the private and military dental practitioner.



Brigadier-General J.F. Begin, left, presents the Field Exercise Award to 2Lt D.M. Lemon of the University of Manitoba.

Canadian Forces Dental Services

Considerable effort has been expended over the past few years by the Canadian Forces Dental Services to re-institute a dental component within the Militia. These efforts have resulted in the approval of the principle and concept of a revitalized Militia dental organization and, more importantly, in the formal authorization of the positions necessary to establish this organization.

Militia dental platoons with headquarters in Calgary or Winnipeg, Toronto, Montreal and Halifax will ultimately consist of four dental officers and four dental assistants each. A dental section consisting of one dental officer and one dental assistant will be located in the Vancouver/Victoria area. At present it is intended to employ dental officers in the Captain/Major rank and dental assistants in the ranks of Private to Warrant Officer. Recruiting is expected to commence in late 1987 and early 1988. Interested parties should contact LCol Ayotte in Montreal at (514) 443-7438.

DR. ISADORE WOLCH

Manitoba dentist enjoys eventful 55-year career

Western Canada's dentists are gaining distinction as those who enjoy unusually successful and lengthy practice careers.

Dr. Isadore Wolch of Winnipeg, who has just retired after 55 years, can surely boast that there has never been a dull moment either in his professional or personal life.

After he graduated from the University of Alberta in 1932 he spent a summer practising in northern mining communities in Manitoba. Then he opened a general practice in Winnipeg.

In 1946, Dr. Wolch enrolled in a postgraduate course in Endodontics at the University of Pennsylvania, studying under Dr. L.I. Grossman. Subsequently Dr. Wolch was granted the first certificate as a specialist in Endodontics to be issued by the Manitoba Dental Association.

Faculty member

He served with the Faculty of the University of Manitoba when it opened and eventually became Head of the Department of Endodontics. Dr. Wolch retained this position until he reached the mandatory retirement age of 65. While on staff at the University, he was named to the Omicron Kappa Upsilon, the honorary dental fraternity.

He is a past president of the Canadian Academy of Endodontics and the Manitoba Chapter of the Alpha Omega Dental Fraternity.

Travelled widely

In 1972 Dr. Wolch was requested to conduct a series of courses in Endodontics in South American countries. He spent a week in each of the following countries – Argentina, Peru and Bolivia. He also presented clinics at the FDI meeting in Australia, and in Israel, England, the United States and many locations elsewhere in Canada.

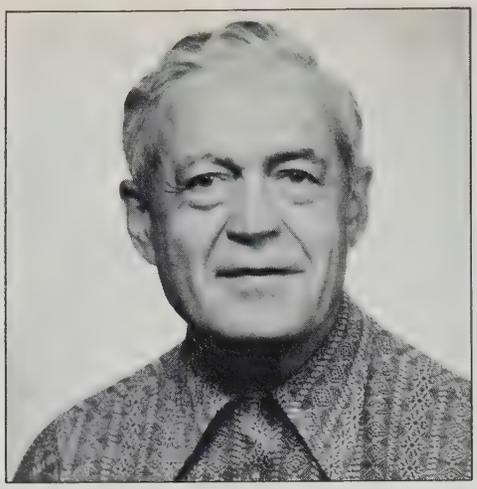
His articles have been widely published in dental journals and periodicals in Canada, the United States, Argentina and Israel.

Active in community

Dr. Wolch has been as active in his community as he was in his own profession.

He was a school trustee in Winnipeg for six years and then became a City of Winnipeg alderman, for a similar period. He was then appointed to the Municipal Board of Manitoba.

In the area of more personal interests, Dr. Wolch served a term as President of the Contemporary Dancers of Manitoba, as a past president of the Winnipeg Lodge of B'nai B'rith and the Jewish Historical Society of Western Canada.



Dr. Isadore Wolch

CDA honor for aide

Dr. Wolch is particularly proud of the fact that an assistant in his former practice, Margaret Johnson, received an award from the Canadian Dental Association for having served longer with a dentist than any other assistant in Canada – 40 years in all.

He and his wife Betty have two daughters and four grandchildren. Characteristic of his zeal during his practice days, he says he looks forward to an active retirement, part of which will include winters in Palm Springs, California, "enjoying golf and the sunshine."

DR. DAVID GARDNER NAMED DEAN OF COLORADO DENTAL SCHOOL

David Gardner, DDS, MSD, former Chairman of the Division of Oral Pathology at the University of Western Ontario and a graduate of the Faculty of Dentistry, University of Toronto, has been appointed Dean of the School of Dentistry, University of Colorado.

The dental school is one of five schools on the University of Colorado Health Sciences Center campus in Denver.

Dr. Gardner, who is 51, assumed his new title September 1. He has been serving as Professor and Chairman of the Department of Pathology and Radiology at the University of Texas Health Science Center in Houston – Dental Branch.

Following his graduation with his DDS from the University of Toronto in 1958, Dr. Gardner earned his MSD in oral pathology from Indiana University in 1965.

He began teaching in the Faculty of Dentistry, University of Western Ontario, London, as an Associate Professor in the Department of Pathology, in 1966. In 1970, he was appointed Chairman of the newly-established Division of Oral Pathology and was promoted to full professorship in 1973.

On his appointment, Dr. Gardner said "the Health Sciences Center is an excellent facility of which Coloradans must be very proud. And the dental school has achieved

CDA SEAL OF APPROVAL RE: ANTI-TARTAR PRODUCTS

by Suzanne Bouchard Tejeda

The Canadian Dental Association's Committee for Consumer Products Recognition continues to provide a vital service in the interests of Canadian consumers and the enhancement of the dental profession.

Recently, the Committee found there was some confusion among consumers concerning the Seal of Recognition Statement for tartar control toothpastes.

At their last meeting, the group agreed that the CDA statement recognizing the therapeutic effect of the fluoride found in some toothpastes could lead to increased confusion when placed on tartar control toothpastes, giving the impression that the anti-tartar agent is also recognized and not simply the fluoride, as is the case.

The fluoride statement accompanying the CDA Seal of Recognition for anti-tartar products has now been changed to the following:

". . . . contains . . . . which is, in our opinion, an effective decay preventive agent and is of significant value when used in a conscientiously applied program of oral hygiene and regular professional care. . . . . has been shown to reduce the formation of tartar above the gumline, but has not been proven to have a therapeutic effect on periodontal diseases."

The last sentence is the addition which the Committee hopes will clarify the statement for the public.

The manufacturers will be required to adopt the new statement as soon as their contract with CDA is renewed, in about one year's time. In the meantime, dentists should point out to their patients the limitations of tartar control toothpastes.

Dr. David Gardner

a national reputation as a center of exceptional teaching and research. I'm excited about the many possibilities that lie ahead.''

He succeeds Lawrence Maskin, DDS, PhD, who was appointed the new Dean of the CU Health Sciences Center's Graduate School last January. Dr. Meskin had been the Dean of the School of Dentistry since July 1981.

''Dr. Gardner will be a driving force in continuing the school's progress toward its promise as an outstanding teaching and research institution,'' Dr. Meskin said. ''We are delighted with his appointment to the School of Dentistry.''

Dr. Gardner served as president of the American Academy of Oral Pathology from 1985-86 and is a member of the American Association of Dental Schools and the International Academy of Oral Pathologists. In addition, he was a founder of the Canadian Academy of Oral Pathology and served as its president from 1972-73. He serves as a consultant in oral pathology to the Commission on Dental Accreditation of the American Dental Association.

Dr. Gardner is married to the former Nancy Carol Foggo. The couple has three daughters, Tricia (22), Sheila (19), and Heather (17).

The University of Colorado Health Sciences Center is comprised of the Schools of Medicine, Dentistry, Nursing, Pharmacy, and the Graduate School, as well as University Hospital and the Colorado Psychiatric Hospital, and seven affiliated organizations.

AD LIB

by Cuspid

SHOULD CANE BE CRUSHED?

When the editors of this journal asked me to write about sugar, I thought it was sweet of them but at the same time wondered biblically whether I would be able to write about Cane.

After all, the jury, if not exactly out on this subject, is certainly still fidgeting rather nervously over its verdict.

And even if the ingestion of sugar may have seemed in recent times on a par with arsenic for sheer deadliness, sugar is by no means a new target. ''If sack and sugar be a fault'', wrote Shakespeare, ''God help the wicked!''

However, in this age of narcissism we seek out – and try to wipe out – those allegedly villainous substances that could jeopardize youth and beauty. And have you noticed how the poor old rat transmutes into a scapegoat in all this? We learn from gloomy newspaper headlines that rats fed quantities of, say, Smarties, have developed peculiar symptoms; later it emerges that a human being, to exhibit the same symptoms, would have to consume a roomful of Smarties.

Consider this, for example, from the *World Review of Nutrition and Dietetics* (Vol. 55): ''Comparative studies on the cariogenicity of sugar alcohols and carbohydrates generally showed an extremely low caries incidence in rats consuming xylitol-containing diets. In the same experiments other sugar substitutes such as sorbitol and mannitol . . . exhibited a slight cariogenic activity which was, however, clearly below that of sucrose.'' But it turns out from the same article that if the rats had sat down to dinner – hoping, presumably, that it would be a leisurely meal uninterrupted by earnest researchers trying to inject them with something – and eaten a few sucrose-containing goodies, it wouldn't have made much difference to their teeth. It's Cuspid's personal view that rats develop all these symptoms because they live their lives in a phobic froth wondering when the next researcher will come at them with a syringe – but that's another issue.

The fact is, according to the same article I referred to earlier, that ''a number of studies have shown that eating sucrose-sweetened foods with three daily meals results in little or no caries. On the other hand, observations with animals as well as humans indicate that above a certain relatively safe threshold of sucrose in meals, there exists a rather close relationship between caries formation and the frequency of sucrose consumption between meals.''

Aha! So no Hershey bars for the rats between meals. Now, one might wonder why, if this between-meal snacking on sweetstuffs is demonstrably hazardous the researchers would be so uncaring as to force such a bad habit on the rats in the first place. Be that as it may, the *WRND* article continues: ''Under conditions of frequent consumption of sugar-containing snacks between the main meals, the plaque pH drops repeatedly and remains for prolonged periods of time below the critical value of 5.7. As a result, periods of demineralization occur more frequently than recovery phases, and dental caries may subsequently develop. This suggests that substitution of sucrose and other fermentable sugars by non-fermentable sugar substitutes has a considerable caries preventable effect even if this substitution is limited to snacks and beverages that are consumed between main meals.''

Well, what does all this mean? Cuspid does not have a sweet tooth. . . but he certainly smells a rat in all the bad press that sugar is getting. It seems to me that one should apply moderation to anything – including moderation. And that certainly applies to sugar. But for rats – and probably for people, too – eating sweet things between meals is probably best avoided.

CFDE FUNDS PUT TO GOOD USE

Dr. John Eisner, Coordinator
ACFD/CFDE Teaching and
Management Institutes

This past June, 36 dental and dental auxiliary educators from across Canada gathered together on the beautiful campus of the University of Western Ontario to attend the third Summer Teaching Institute and the inaugural Summer Management Institute. This marks the third summer in a row that the Association of Canadian Faculties of Dentistry (ACFD), the Canadian Fund for Dental Education (CFDE), and dental education institutions across Canada have joined forces to offer these very successful faculty development programs. The history and scope of this project reflect the determination of the ACFD to address a long-standing deficiency in dental education and the courage of the CFDE in supporting this project at a time when institutional resources are severely restricted.

The Teaching Institutes

In 1983 the Canadian Fund for Dental Education met with ACFD officers to discuss several new funding priorities. Out of these meetings emerged a proposal to create a Summer Teaching Institute for dental educators in Canada. The proposal addressed a prevalent problem in our dental schools. Although most dental faculty members have devoted 8-10 years toward their undergraduate and professional education, in almost all cases none of this time involves any instruction in pedagogy or the study of adult education. Indeed, there does exist a respected body of information regarding instructional design, one-on-one teaching, test construction, and many other topics of importance to the teaching of professional students. While it would be nice to think that dental educators would have learned about such topics and practiced the application of related skills prior to accepting a teaching position, such is not the case. This deficiency in teaching skills within the full-time faculty is compounded in those schools which rely heavily on part-time faculty for a large proportion of their student contact. Laboratory and clinical teaching skills are just as important for these individuals as for the full-time faculty, yet almost no effort is devoted to the preparation of part-time faculty for their teaching roles.

The ACFD/CFDE Teaching Institute program attempts to address both of these problems by offering a nine-day summer program for full-time faculty as well as a $2000 biennial grant to each dental faculty for the conduct of in-service teacher-training activities directed toward the part-time faculty. The results to date have been very positive. Fifty-two full-time faculty have attended the Summer Teaching Institute over the past three years and many part-time faculty have attended, and benefited from, the in-service programs offered within their Faculties. Dr. Bruce Squires, formerly at UWO and now the editor of our sister publication, CMAJ, directed the last three Teaching Institutes with assistance from Dr. Richard Lewis (UW) and Dr. John Eisner (Dalhousie). All three individuals have been

DID YOU KNOW?

P. Ralph Crawford, D.M.D.

"How Forcible are Right Words"
(Job 6,25)

DID YOU KNOW? The official "voice" of the Canadian Dental Association – the Journal – was first published in January 1935. Dr. M.H. (Harry) Garvin was founding Editor and served in that capacity from 1935 to 1953.

DID YOU KNOW? That since 1961 over 65 *new* dental journals have been published and distributed for North American reading.

DID YOU KNOW? The CDA Journal staff is comprised of an Editor, an Associate Editor and a Production Assistant. An Advertising Manager resides in Toronto and the two Scientific Editors are from Montréal and Toronto. A four member Publications Committee meets four times a year and reviews the Journal's fiscal, editorial, format and advertising policies.

DID YOU KNOW? The Journal's 17,500 copies are produced monthly by an Ottawa layout/graphics firm, involving of dozens of steps and proofreadings prior to a printed form.

From the time an article crosses the editorial desk to the time it arrives in your office, it takes about six weeks. The Journal can be printed and bound in just two days before being shipped to a mailing house. From there it is at the mercy of the vagaries of the Post Office!

Deadline for this article was October 15th!!

DID YOU KNOW? This issue brings to an end the publication of DID YOU KNOW? The author thanks the many readers for their comments, letters and support.

THE "DID YOU KNOW?" QUIZ!

Test your memory and knowledge of an item that has appeared in a previous issue.

This month's question:

"What is the name of the dentist who first flew higher than 500 feet in a heavier than air machine?"

THE PRIZE: For the first FIVE correct answers drawn at random, 100 FREE CDA PAMPHLETS* of your choice can be won.

Send your answer to **DID YOU KNOW?**
c/o The Journal of the CDA
1815 Alta Vista Drive
Ottawa, Ontario, K1G 3Y6

* *Excluding* the pamphlet "Consumers Guide to Dental Care"

GOOD LUCK!

involved in the follow-up programs at each institution and have encouraged the schools to develop their own series of annual in-service programs for both full and part-time faculty, by using the $2000 as seed money to get such programs started.

The Management Institutes

Feedback from participants in the first two Teaching Institutes suggested that there were two major impediments to putting their newly acquired teaching skills into practice. First, they often had such heavy teaching loads that they did not have the time to properly design their courses or carry out the necessary preparations, such as calibrating their colleagues or preparing a good test. Second, when time was available, their chairmen often advised them to focus their attention on research rather than assist them in a balanced approach to improved teaching combined with their scholarly pursuits. In many cases the chairmen had few teaching skills of their own and lacked the ability to assist faculty in their development. In addition, the rules for promotion and tenure at most schools are usually very specific about research productivity and often quite vague about teaching excellence. This combination of factors left little doubt as to where the faculty member's extra time should be spent.

This apparent lack of support from chairmen, was one of the principle reasons which lead ACFD to propose that a second Summer Institute be developed specifically for departmental chairmen. CFDE and the ACFD House of Delegates agreed to the plan in 1986 and the first Summer Management Institute was offered in the summer of 1987 to 16 departmental chairmen or other 'middle management' personnel. Dr. David Chambers, from the University of the Pacific in San Francisco, was the Institute Director and there is no doubt that his background as a professor of management and as a dental school administrator made the program a tremendous success.

The Future

The Canadian Fund for Dental Education has generously extended its support of the Teaching and Management Institutes into 1988 and applications for the May 28 – June 5, 1988 Institutes are now being distributed to all faculty and administrators in ACFD member institutions. There seems to be little doubt that this type of faculty development program is a much needed addition to dental education in Canada and, as such, the ACFD is hoping to negotiate a long-term arrangement with CFDE for the continuation of the Institutes.

PAEDIATRIC SOCIETY ISSUES FLUORIDE SUPPLEMENT STATEMENT

The Canadian Paediatric Society Nutrition Committee has released an updated statement on Fluoride supplementation to reflect their current consensus of opinion.[1]

The announcement in the In-Touch publication, a quarterly published by the Infant Nutrition Institute states that "the rationale for supplementing the fluoride intake of infants and children is based on the importance of fluoride to dental health."

The fluoride supplementation guidelines developed by the Society for use by physicians are as follows:

1. Ascertain the fluoride concentration of the patient's home water supply. This may require consultation with the Health Department of the patient's municipality.

2. If the water supply is communally fluoridated or if the natural fluoride content of the drinking water is >0.7 ppm fluoride:
– Do not prescribe an oral fluoride supplement. Do not prescribe a fluoride-vitamin preparation. This is applicable to all age groups, including breastfed infants.
– Recommend fluoridated toothpaste 2 times daily after meals, starting at about two years of age. Caution parents to apply only a pea-size squirt of paste and to train the child to spit out as much as possible.
– Endorse periodic topical applications of fluoride by a dentist.

3. If home water supply contains <0.7 ppm fluoride:
– infants 0 – 1 year –
Use fluoride drops

Start in the first few months of life with dosages shown in **Table 1**.

For convenience, drops may be added to the day's formula or other ingested fluid (juice or water).

This is applicable to breastfed and formula fed infants.

Note: Fluoride-vitamin preparations are not recommended for general use. If vitamin supplements are needed, prescribe these separately.

– infants over one year, and children under 13 years –

Prescribe chewable or, later regular tablets once daily in dosages shown in **Table 1**.

Stress the need for a regular daily routine, until 12 years of age.

Recommend fluoridated toothpaste two times daily after meals, starting at about two years of age. Caution parents to apply only a pea size squirt of paste and to train the child to spit out as much as possible.

Do not prescribe fluoride rinses and home-applied gels, when oral supplements and fluoridated toothpaste are used.

Endorse periodic topical application of fluoride by a dentist.

Support the policy of municipal water fluoridation as an important public health measure.

– Pregnancy –

Fluoride supplements are not recommended, as little evidence is available to support their use.

Reference

1. Canadian Paediatric Society Nutrition Committee. Fluoride Supplementation. Contemporary Pediatrics, pp. 50-56, March/April 1987.

TABLE 1

Fluoride concentration in local water supply (ppm)

Age	<0.3 ppm	0.3-0.7 ppm	>0.7 ppm
	Dose of supplemental fluoride ion (mg/day)		
0**-2 years	0.25	0	0
2- 3 years	0.50	0.25	0
3-12 years	1.00	0.50	0

The vehicle should only provide fluoride as an additive. This schedule allows for differences in age and in the fluoride concentration of local water supplies. It permits the use of either fluoride tablets or solutions.

*2.21 mg of sodium fluoride provides 1.0 mg of fluoride ion
**Start supplements in the first few months of life

Source: Contemporary Pediatrics, March, April 1987)

DR. JAMES SADDORIS IS NEW PRESIDENT OF ADA

Tall, genial Dr. Jim Saddoris of Tulsa, Oklahoma, a graduate of Baylor University dental school in 1958, is the new President of the American Dental Association.

He was installed on October 15, the final day of the 1987 ADA annual session in Las Vegas.

When he set up his private practice in an office he shared with his father, a physician, Dr. Saddoris, 59, said he initially had given no thought to joining a dental organization.

However, he was persuaded by colleagues, and eventually became President of the Oklahoma Dental Association. Later he was a member of the former ADA Council on Federal Dental Services, and was its chairman from 1977 to 1979.

He was elected to the ADA Board of Trustees in 1981 and his selection last year as President-Elect ended his second term as a trustee.

Dr. Saddoris has also been very active in other areas of organized dentistry, serving as treasurer of the American Fund for Dental Health, a trustee of the National Foundation of Dentistry for the Handicapped and as a member of the long-range planning council of the Academy of General Dentistry.

Goals for dentistry

Contemplating his perceived goals for dentistry in an interview prior to the ADA annual meeting, Dr. Saddoris said "organized dentistry is the only means we have of expressing ourselves as a group. We tend to become isolationists in practice – that's not to put down individualism, because individualism is what we're about – but working together is what has brought dentistry to where it is today."

He has listed his goals for the dental profession in the following order:

- First, strengthening the organization from a monetary, membership and management standpoint.

- Focusing on maintaining the quality of dental schools and their students.

- Enhancing the profession's presence internationally, especially by sharing the knowledge and advancements of dentistry in (the U.S.A.) with others.

- Communicating the value of dental care in relation to the overall health and well-being of patients.

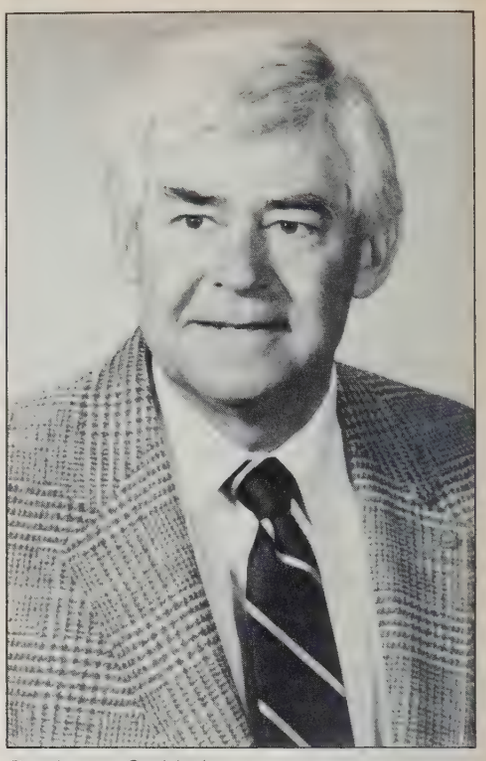
- Most important, meeting the challenges of the future as a united profession.

Dr. Saddoris commented that united, the dentists have the opportunity to plan their future. "Someone is going to program the future of dentistry and the way you make your living, so why shouldn't it be the dentist?"

Greatest danger

In his interview recorded in *ADA News* (September 21), he believed the greatest danger to the practice of dentistry today is "slow encroachment into the delivery of dental care by others, who do not have our professional and ethical commitment to the welfare of our patients."

He said he believed US dentists have been able to provide the highest standard of dental care in the world because of the fee-for-service, private practice system. However, he continued, "just as prepaid dental care led to many people accessing themselves to the dental care system, I believe it is incumbent on us to experiment with other payment systems or methods of payment."



Dr. James Saddoris

PHOTO COURTESY OF THE ADA NEWS

During the ADA Convention in Las Vegas, Dr. Ron Markey, left, President of the Canadian Dental Association received warm greetings and offers of cooperation from the immediate Past-President of the American Dental Association, Dr. Joe Devine.

HEART FOUNDATION URGES BLOOD PRESSURE AWARENESS

The Canadian Heart Foundation which regularly sponsors national education theme programs, has designated 1987 through 1989 for a program on blood pressure. "Know Your Blood Pressure" is the actual theme.

The three major program goals are:

- Know what blood pressure is
- Know what Your blood pressure is
- Know what factors influence your blood pressure.

The program is based on the concept of "self care" and "wellness" whereby individuals are ultimately responsible for their own health. The purpose of this program is to create a positive attitude toward blood pressure, and to encourage individuals to have their blood pressure checked regularly.

Market research indicates that middle age males (i.e. 25-45 years) are most likely to benefit from this program, although the educational activities can be directed to all segments of the population.

The Heart Foundation believes that as health care professionals, Canadian dentists can assist in promoting this program. A dentist's interaction with his patients as well as the community at large puts him/her in a unique position.

"You can inform Canadians about blood pressure and how to keep it healthy," Frances M. Gregor, RN, MN, Chairman of the Heart Foundation's Education Committee informed this Journal.

A professional guide has been developed to support the health professionals' efforts in this regard. Because the program will be advocating regular measurement of blood pressure, the guide provides detailed information on this topic, including a standardized blood pressure measurement and referral procedure. In addition, this professional guide identifies components of a quality blood pressure clinic and provides recommended references for teaching as well as subsidiary resources. Appendices provide up-to-date information on current Canadian issues pertaining to management of blood pressure. A useful bibliography is also included.

Single complimentary copies of this professional guide (English or French) are available from the provincial Heart and Stroke Foundations.

CDA RETIREMENT SAVINGS PLAN

Unit values: (Funds are valued weekly)

Fund	Unit values as at October 30, 1987	September 30, 1987
Fixed Income Fund	58.03775	55.38332
Common Stock Fund	121.17867	152.68129
Money Market Fund	38.78687	38.36366
Balanced Fund	23.31697	25.33026

Interest rates:

Guaranteed Fund Term	*Interest rates as at October 30, 1987	September 30, 1987
1 yr	9.35%	9.25%
2 yr	9.75%	9.75%
3 yr	10.10%	10.25%
4 yr	10.25%	10.50%
5 yr	10.50%	10.75%

(*rates subject to change without notice.)

Total Assets (Market value) of the Plan as of:

October 30, 1987	September 30, 1987
$80,739,228	$89,423,996

For further information:

Write: Canadian Dental Service Plans Inc.
Retirement Services Department
Suite 600, 2 Lansing Square
Willowdale, Ontario M2J 4Z3

or phone, toll-free:
Western and Atlantic Canada and Ontario Area Code 807 only 1-800-268-5418
Quebec and Ontario, (except Area Code 807) 1-800-268-3411
Metro Toronto Area . . . 497-7117

April is Dental Health Month '88
and the big question is,

What Keeps Bob Smiling?

CANADIAN DENTAL ASSOCIATION

DENTAL HEALTH
Good For Life

Briefly

Suzanne Jensen, (right), a Grade 10 student from Queen Elizabeth High School, Halifax, was the winner of the "Dental Health — Good for Life" Essay Contest sponsored by the Halifax County Dental Society (HCDS). Dr. Lea Smith, President of the HCDS, is seen presenting a $500 scholarship cheque to Miss Jensen, to be used toward her university education. Her essay was entitled: "Dental Health Is Good for Life."

The Class of 1952, Dalhousie Dental School, met in Halifax once again this past summer, for a two-day reunion. Ten of the class of 12 were present at the Citadel Inn gathering.

The Class is unique, not only because of its small numbers, but also because the members maintain contact, and meet every five years. The reunions have taken place in Toronto, Ottawa, Montreal and Halifax.

This year's successful event was a success largely because of the efforts of the class secretary, Beryl Barrett and of Ray Epstein, who was the host at a lobster party at his home.

The Class hopes to mark its next reunion in 1992.

Those in attendance were: Dr. and Mrs. Gerry Barrett, Charlottetown; Dr. and Mrs. Clinton Hayward, Chatham, N.B.; Dr. and Mrs. Don Hicks, Kamloops, B.C.; Dr. and Mrs. Drummond Cobb, Charlottetown; Dr. and Mrs. William Dwyer, St. John's, Nfld.; Dr. and Mrs. Ed. MacIntosh, North Sydney, N.S.; Senator and Mrs. Orville Phillips, Ottawa; Dr. and Mrs. Roy Davis, Truro, N.S.; Dr. Ray Epstein, Halifax; Dr. Claude Franklin, Halifax; Mrs. William Coleman, Baddeck, N.S..

Dr. and Mrs. Don Woodside, Toronto and, Dr. and Mrs. Bud Iwosaki, Kamloops, B.C. were guests.

National Health and Welfare Minister Jake Epp recently announced that the federal government will lend its full support to the National Access/Awareness Week for Disabled Persons — an annual event to be held for the first time in 1988.

The announcement was associated with Rick Hansen's successful Man-in-Motion world tour.

The federal government has pledged its support as a partner in developing and implementing this initiative together with a national awareness week committee, comprised of representatives of disabled persons' organizations, labor, business, government and rehabilitation organizations.

Intended to be more than just a public education campaign, one of the basic elements of the week will be a "report card" approach. Communities, with the active participation of organizations, businesses and governments will be encouraged to take annual stock in order to pinpoint obstacles and set goals to further the full participation of disabled persons.

The basic format, as well as suggestions for devising and completing Report Cards, will be developed by the National Access/Awareness Week Committee. These will be distributed to communities to encourage and enable them to develop activities relevant to their own local needs.

Dr. Richard Emery

At the recent executive meeting of the Federation of Dental Societies of Greater Montréal, Dr. Richard Emery was elected President for the 1987-88 term.

Other officers named at the meeting were: Dr. Pierre Langlois, Treasurer; Dr. Bruce Dobby, Recording Secretary; Dr. Samuel Israelovitch, Corresponding Secretary; Dr. Normand Roy, First Vice President; Dr. William Steinman, Second Vice President; Dr. Robert David, Scientific Chairman, and Drs. Michael Tenenbaum and Hélène Lefrançois-Couture, Scientific Committee.

The Federation of Dental Societies of Greater Montreal is comprised of three dental societies: Société dentaire de Montréal, Mount Royal Dental Society and the Montréal Dental Club.

The new President, Dr. Richard Emery, has a private practice in oral and maxillofacial surgery. He is an Assistant Professor at McGill University's dental faculty. He is also a Fellow of the Royal College of Dentists of Canada and a Diplomate of the American Board of Oral and Maxillofacial surgery.

Dr. Kenneth Hershenfield, who conducts a periodontal practice in Willowdale, Ontario, and is a part-time faculty member with the University of Toronto's Faculty of Dentistry, has recently been named President of the Canadian Academy of Periodontology.

A graduate of McGill University with BSc and DDS degrees, Dr. Herschenfield then attended Boston University, (the Henry Goldman School of Graduate Dentistry) and graduated in 1974 with an MScD and a Certificate in Advanced Graduate Studies in Periodontics.

Dr. Hershenfield also holds the offices of

Secretary-Treasurer of the Ontario Society of Periodontists and President-Elect of the Toronto East Dental Society.

Other officers elected at the Academy's annual meeting in Quebec City, include: Dr. Edward J. Hannigan, Halifax, President-Elect; Dr. Gary M. Foshay, Halifax, Secretary; Dr. Malcolm Miller, Calgary, Treasurer, and Dr. Dan Morrow, London, Ontario, Editor.

Dr. Kenneth Hershenfield

Recently, Dr. Alain Audet received an MD degree from Laval University.

Graduated from the University of Montréal's Dental Faculty in 1976, Dr. Audet undertook post-graduate studies at Laval University where he became a specialist in oral and maxillofacial surgery in 1981.

He then went to France and Britain to finish his studies in craniofacial surgery in order to get his MD degree from Laval.

Dr. Audet is now chief of the Department of Oral and Maxillofacial Surgery at Chicoutimi's Hospital.

Dr. Alain Audet

DENTAL AWARENESS PROGRAM UPDATE

PATIENT COMMUNICATION

Making It Work In Your Office

As part of the Canadian Dental Association's *Dental Awareness Program*, the ***Patient Communication Seminar*** has been developed to give dental teams the opportunity to learn how better patient communication can lead to a more satisfying – and a more rewarding – dental practice.

The seminars are offered cooperatively by the CDA and local associations and societies. The first were hosted by the Manitoba Dental Association on September 17th and 18th in Brandon and Winnipeg, respectively.

Turn-out over the two day period was excellent. All told, 125 dentists and an additional 300 auxiliary staff (hygienists, assistants, dental nurses, and receptionists) participated.

The seminar's goal is to help improve an office's internal and external communications. It walks the dental teams through a typical patient visit – outlining communication opportunities and the needs of the patients during the appointment, and identifying when and where resources can be most effectively used. And it describes the potential inherent in communication vehicles such as the mail and the telephone.

The CDA has also developed a companion seminar manual, the ***Patient Communication Planner***, which is distributed to every dentist in attendance.

The ***Planner*** guides the professional, step by step, through a straightforward communication planning process. The focus throughout is clearly the dental team: on what they want to achieve; on what their patients think, know and do; and on how to determine the action plan that will work best, given the unique characteristics of each dental practice. (Watch for the planner to be made available separately from the seminar early in the new year.)

According to Ross McIntyre, Executive Director of the Manitoba Dental Association, "the seminar contained some excellent material . . . it showed the dentists that you don't need a massive paid advertising campaign to make a difference – it's what you do internally."

The MDA is now looking at ways to extend the interest and enthusiasm generated on patient communication by the seminars.

Welcoming Dental Health Month 1988

The planning for Dental Health Month 1988 is well under way – provincial associations are busy planning their activities, ordering new materials, preparing for the best April ever.

Here's a quick overview of what's to come. The CDA is introducing "**The 5-Point Prevention Plan**". This is an official recommendation to all Canadians from the CDA that clearly and simply lists the basic preventive measures that every individual can take to maintain the best possible personal dental health – and to keep it good for life.

The "**5-Point Prevention Plan**" conveys an active, educational message from the profession to the public. The CDA is asking the question "**What Keeps Bob Smiling?**" in order to promote the idea that prevention is in the hands of each and every person, not just the practitioners. The answer to that question is displayed in "**The 5-Point Prevention Plan**".

Each year the success of Dental Health Month continues to grow. During April 1987, dentistry enjoyed widespread media and public attention, nationally and locally. We're looking forward to '88's events and anticipate the reaction to them to be the most exciting to date.

Next month, watch for a special edition of the Journal. It will provide helpful hints on how DHM can work in your office; contain a brochure and full ordering details for this year's excellent theme materials; and offer other news on DHM '88.

Remember . . . April is coming sooner than you think.

Book Reviews

OCCLUSION — PRINCIPLES AND CONCEPTS

Jose dos Santos Jr.

Ishiyaku Euro America Inc.
St. Louis; Tskio 1985
Soft Cover, 212 Pages

The task of reviewing Dr. dos Santos is made more difficult when one considers that the text has been translated from the original Portuguese and has been developed by the expansion of lecture notes. Largely, I think, because of translation difficulties the chapters which deal with more complex, abstract concepts such as INTERMAXILLARY RELATIONS, OCCLUSAL ANALYSIS, OCCLUSAL ADJUSTMENT and CONCEPTS OF OCCLUSION are somewhat weak and confusing, while the chapters dealing with more straightforward descriptive details — MASTICATORY APPARATUS, MANDIBULAR MOVEMENTS, USE OF ARTICULATORS and OCCLUSAL CONTACTS, are, by and large, clear and well written.

The chapter on Concepts of Occlusion is an excellent historical review for the Occlusal Historian, but is well beyond the needs or comprehension of the dental student at whom the text is aimed. The author's graduate training in Ann Arbor is clearly reflected in the disproportionate amount of time spent on Freedom in Centric and on Computerized Pantographic Tracings and in general the Michigan Philosophy is more clearly described in the various texts by Ramjford and Ash, and indeed, one can find a much clearer, more balanced text on Occlusion in the recent excellent book by Okeson.

Some confusion may well be created by using the abbreviation C.O. for both Centric Occlusion and Curve of Occlusion although again this is likely a problem of translation. Equally, his definition of centric relation as the "uppermost rear most condylar position" is not consistent with much current teaching and can only serve to add more confusion to an already confused field.

On a more positive note, the line drawings are excellent throughout and well integrated with the text; the print and layout of the book is clear and encourages easy reading, and the list of Recommended Readings, although not referenced to the text, is extensive and well chosen.

In conclusion, this text, although possibly well suited to its original Brazilian market, is unlikely to create much interest in North America either for the Dental Student or Clinician.

This book was reviewed by
Crawford A. Bain, BDS, DDS, MS,
Cert. Perio., Cert. Fixed Pros.
Head, Division of Periodontics
Department of Restorative Dentistry
Faculty of Dentistry
Dalhousie University
Halifax, Nova Scotia

PRECISION ATTACHMENTS IN PROSTHODONTICS: OVERDENTURES AND TELESCOPIC PROSTHESES VOLUME 2

by Harold W. Preiskel

Quintessence Publishing
365 pages

This second volume of a two volume set on "Precision Attachments in Prosthodontics" deals specifically with attachments employed with overdentures and telescopic prostheses.

This book is a step-by-step clinical and technical guide for the various attachment techniques which assumes an undergraduate knowledge of prosthodontics. This volume is recommended as a reference guide for the dental student and practising dentist. It is a must for those who utilize precision attachments in their restorative and reconstructive dental practice. It is particularly suited for the dentist who has attended a continuing education course and now feels lost because his restorations don't function as well as the course presenter claimed.

The bulk of the information is presented by Harold Preiskel, an internationally respected educator, clinician and author. What I particularly like about this book is Dr. Preiskel's wealth of experience on this topic. He clearly points out the pitfalls with each technique from a clinical and technical point of view throughout the description of the various treatment alternatives. The author constantly tries to make you aware of the disadvantages and shortcomings for a particular technique. The technical considerations and technique sensitivity are always clearly stated. At no time are you given the feeling that the reliance on attachments in prosthodontics is paramount on the author's mind. Instead, you are repeatedly reminded of proper treatment planning, prosthetic principles and proper prosthesis construction rather than placing your fate on retaining gadgets. There is also an excellent chapter on the application and benefits of magnets written by Dr. R.D. Gilling from Australia. All major attachments with a list of manufacturers is also presented.

This 365-page volume contains beautiful color illustrations of the various attachments, clinical and technical steps that are described. The high quality paper and the permanent ribbon page marker adds a 'touch of class' which is only surpassed by the educational information contained in this book.

If there are any negative features about this book they are not worth mentioning and I can recommend it very highly for those with a special interest in prosthodontics.

This book was reviewed by,
Dr. U.C. Kastner, DDS, MS
a Prosthodontist in private practice in Calgary, Alberta.

TEMPOROMANDIBULAR JOINTS: CLASSIFICATION, DIAGNOSIS, MANAGEMENT

by Welden E. Bell

Yearbook Medical Publishers
Chicago, Ill.
329 pages, 1986

Dr. Welden E. Bell is an author who has spent many years dealing with, and writing about, the diagnosis of orofacial pain.

His text on that subject was first published in 1973. Focusing on the temporomandibular joint he then published "A Clinical Management of Temporomandibular Disorders" in 1982. The title of that volume is somewhat misleading since his guidelines for treatment are only mentioned in the last of ten chapters. A major contribution made in the writing of that text, was in the area of outlining principles of mascitatory function and attempting to clarify and systematize the gathering of information, in order to arrive at a correct diagnosis. Detailed therapy was not to be found in the first edition, nor is it found in the second.

The title of the second edition was changed and more accurately describes the contents i.e. "Temporomandibular Disorders Classification, Diagnosis, Management". It expands on the first and includes discussions on some of the more current areas of interest. For example, the subject of internal derangement of the joint is presented in more detail.

The major contribution which Bell makes in the writing of this text is in the areas of basic understanding of mandibular function and a scientific and scholarly approach to the examination, classification and diagnosis of T.M.J. disorders. In this regard, he has known and worked with many of the pioneers in the field and has exhaustively reviewed the scientific literature. The listed references alone are of value to anyone who wishes to review the current and past literature on the subject.

Considering the usual areas of controversy, i.e. the role of occlusion, the diagnostic value of standard radiography, etc., the author takes, in my mind, a very logical and mature stand on these issues by outlining all of the factors which can contribute to the etiology and diagnosis of these disorders without embracing only one concept to the exclusion of others.

For those who are looking for a cookbook approach to therapy, this book will be a disappointment. The author assumes that these techniques are known by the reader, and if not, then can be obtained by reading the numerous publications dealing with these topics.

This is a valuable edition to the library of any practitioner who wishes to develop a truly scientific approach to the subject. For those who presently have the first edition in their library, the second edition may not contain sufficient new information to make its purchase worthwhile.

This book was reviewed by
Dr. E.P. Miller
McGill University
Faculty of Dentistry
Montréal General Hosp.
Div. of Oral and Maxillofacial Surgery

GERIATRIC DENTISTRY

Edited by Paul Holm-Pedersen and Harald Löe

Published by Munksgaard,
Copenhagen, 1986
424 pages

In typical Scandinavian thoroughness a book on oral gerontology has been conceived and brought together by Paul Holm-Pedersen, of Denmark, and Harald Löe, Director of the NIDR in the U.S.A. The book is drawn from the experience of 42 clinical scientists, mostly dentists and physicians, who have contributed to "a comprehensive review of the process of aging and its relevance to the delivery of dental health care".

The input from European and North American authorities is almost equal, and the list of contributors reads like a "who's who" in oral gerontological research. Getting this group to participate in one book must have been an onerous task, but the structure of the text allows one contributor to build upon the presentation of another with little repetition. The content covers a wide range of interests from the biology of aging to the oral health services appropriate to elderly people.

The first section of the book provides a general description of the aging process and leads to a very detailed review of the effects of time on the cell, immune system, bone, teeth, mucosa, and salivary glands. The overriding impression from the early chapters is that knowledge of human physiology is deficient and the distinction between disease and normality in this age group is unclear. This impression, in fact, permeates the entire book. The influence of the social environment on the older person is discussed in the second section and followed by a description of the effects on oral health of general medical problems. The biomedical aspect of aging is addressed very succinctly in a chapter by Alvar Svandberg, of Gothenburg, Sweden, a prolific centre of geriatric research where dental concerns have been addressed on an equal footing with the other medical specialties.

The second half of the book focuses specifically on oral disease in elderly people. A long section with 9 chapters provides detailed summaries of caries, periodontal disease, and oral mucosal pathoses in aged mouths, along with a discussion of appropriate treatment methods and techniques. Unfortunately, the prosthodontic treatment described lacks a focus on elderly debilitated patients. There are separate chapters on fixed and removable prostheses in which the usual options for replacing teeth are outlined, and surprisingly, fixed bridges are still considered superior to removable prostheses because of "better accessibility for oral hygiene". There is, however, no mention of the hygiene and maintenance problems associated with multiple fixed pontics and crown margins in debilitated patients. Nevertheless this short venture into conventional clinical technology is effectively remedied by the final section devoted to the provision of dental services. The difficulties of establishing this service are analyzed with experience from Norway by Dorthe Holst and Justine Rise. This is followed by a provocative discussion by Howard Bailit and Ardell Wilson in which the oral health needs of the elderly are placed beside other health care issues in North America and elsewhere. They conclude that governments are unlikely to sponsor geriatric dental programmes in the near future. In the final chapter there is a very detailed description of materials and equipment available for the provision of a dental service to institutionalized or homebound elderly patients.

There is little, if anything, omitted from this book, although it may be outdated in the near future with the rapid production of new knowledge in this field. For the present it will serve as the authority on the subject and there is a wealth of references for anyone involved in oral gerontological research. The book should become a standard text in dental schools as a revelation of ignorance, a guide for research and a help in practice.

This book was reviewed by
Dr. Michael MacEntee,
Faculty of Dentistry
University of British Columbia,
Vancouver, B.C.

MONHEIM'S LOCAL ANESTHESIA AND PAIN CONTROL IN DENTAL PRACTICE

C. Richard Bennett

C.V. Mosby Co., 1984, Toronto, Ontario.
404 pages, 155 illustrations.

This is the seventh edition of one of L.M. Monheim's almost classic books on the broad topic of anaesthesia for dentistry. The first edition was printed in 1957. The format in the present hardcover edition remains strikingly similar to the older editions but has kept up to date in most areas, reflecting the many changes and advances in the field over 30 years. The author fully recognizes that the rapidity with which developments in the field of dental anaesthesia are taking place makes completeness an impossibility.

This book is divided into 13 Chapters. The

initial chapters deal with the concept of pain – including a discussion on nerve physiology, and an in-depth chapter on the trigeminal nerve. Chapters 3 to 8 inclusive are directed toward regional anaesthesia techniques. The discussion of each technique is very logically laid out under the following headings:

1. Nerves anaesthetized
2. Areas anaesthetized
3. Anatomical landmarks
4. Indications
5. Needle Pathway During Insertion
6. Approximating Structures When Needle Is In Position
7. Technique for Right and Left Side
8. Symptoms of Anaesthesia

This layout is of particular benefit to the undergraduate dental student. This section on techniques is very well illustrated with drawings and photographs. Chapters on local anaesthetic solutions, vasoconstrictors, pre-anaesthetic evaluation and complications – both local and systemic, complement the chapter on techniques.

The author also includes chapters on conscious sedation in dentistry, postoperative pain control, sterilization and finally a chapter entitled "Dentistry, local anaesthesia and the law." These chapters essentially supplement the chapters on local anaesthesia, the area toward which the main thrust of this book is directed.

The last few pages of the book include a useful Glossary of Terms, an Appendix and finally a Bibliography. It should be noted that statements within the body of the text are not referenced directly. As well, the Bibliography of over 100 references does not appear to be particularly up to date – most references being well over ten years old and many much older than that.

This text is clearly directed at the undergraduate dental student as a discussion of regional (local) anaesthesia techniques. This it does very well indeed. Presentation and discussion of all ramifications of pharmacology, as well as of anaesthetic complications and office emergencies, are beyond the scope of this book. These areas would have to be supplemented and indeed, it is the author's apparent wish, that these chapters serve to stimulate further perusal of the appropriate literature.

This book was reviewed by
Earle R. Young, BSc, DDS, BScD (Anaesth.), MSc. (Pharm.), FADSA
Asst. Professor of Anaesthesia, University of Toronto, and
Fellow in Anaesthesia, The Wellesley Hospital, Toronto.

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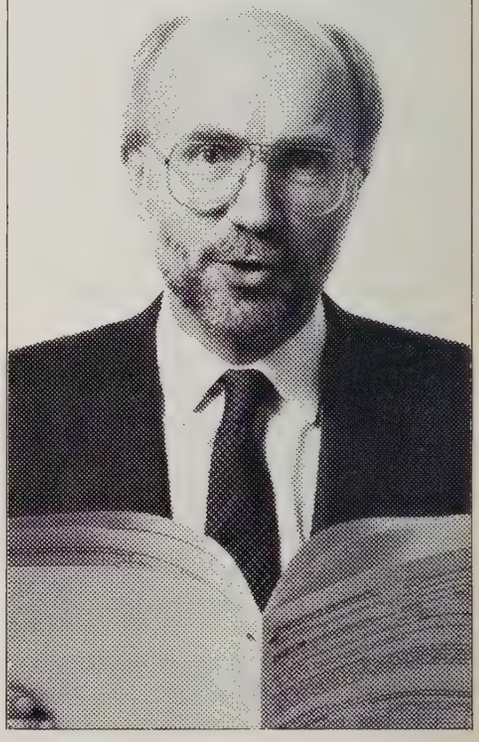

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Resource Centre de documentation

TMJ/DIAGNOSIS AND TREATMENT

LE DIAGNOSTIC ET LE TRAITEMENT DE L'ATM

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Even After Brushing With Fluoride, Teeth Need The Fluoride In Listermint.

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naire, of patients with functional disturbances of the masticatory system. Journal of Oral Rehabilitation, v. 13, no. 2, March 1986, pp. 105-113.
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LIBRARY ACQUISITIONS/TITRE EN BIBLIOTHÈQUE

The following current acquisitions are available on loan from the Resource Centre/Library.

Les titres indiqués ci-dessous sont maintenant disponibles à la bibliothèque/centre de documentation de l'ADC.

1. Kussick, Leon. *Bone Remodeling Orthodontics by Jaw Repositioning and Alveolar Growth*. Chicago: Quintessence Publishing Co., 1987. 284p. 1 copy.
2. Canadian Medical Association. *Health Care for the elderly: Today's challenges, tomorrow's options*. Ottawa: Canadian Medical Assoc., 1987, 75 p.
3. *1987 Yearbook of Dentistry*. Chicago: Yearbook of Medical Publishers, Inc., 1987, 413 p.
4. Shillinburg, H.T. and others. *Fundamentals of tooth preparations for cast metal and porcelain restorations*. Chicago: Quintessence Publishing, 1987, 390 p.
5. Zinner, I.D. and others. *Full-mouth reconstruction: fixed removable*. The Dental Clinics of North America. Philadelphia: W.B. Saunders Co., July 1987, 562 p.

One copy of the above articles is available at no charge from the library to all CDA members. Non-members will be charged $5.00. This bibliography was generated with the help of MEDLARS, a computerized information retrieval system for the Health Sciences field, which has been operational in the library since February 1982.

La bibliothèque de l'ADC offre gratuitement à ses membres et pour $5.00 aux non membres une copie des articles au-dessus. Cette bibliographie a été préparée avec l'aide de MEDLARS, un système informatisé de recherche bibliographiques pour les sciences de la santé. Ajouté à la bibliothèque en février 1982.

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Letters

USE OF THE TERM 'NON-INVASIVE'

The Scientific Article by Dr. R.G. Stephens et al. in your August issue clarifying the new approach to the incipient caries lesion was most refreshing; it is certainly revolutionary vis-à-vis traditional caries management. Even though, as we are reminded, Raper wrote on the subject more than half a century ago this clinical disregard for history's landmarks should come as no surprise. It must be remembered that no one took much serious notice of Crichton-Browne who suggested, in 1895, that fluoride may be of some advantage in resisting the ravages of dental decay.

However, this letter is being written to focus on a different topic and is by way of caution. My concern is with the use of the expression "non-invasive". Certainly the authors are applying the term to the treatment itself but the diagnostic method is so intimately a part of the process that it cannot be considered something separate.

Most of what we do has a risk-benefit ratio and where the risk is greater than zero, the use of the term "non-invasive" might be somewhat misplaced. The risk to which I refer is in the use of the radiograph. It is certainly good and proper practice but all ionizing radiation has some biological effect (albeit not always untoward) at the cellular or nuclear level and no matter how minimal, it is never zero.

In the hands of undisciplined and "sloppy" practitioners the use of the term "non-invasive" might provide an unintended sense of complacency in their radiographic technique. It should perhaps have been noted that all radiographs must be of high quality with minimal "repeats" and this essential diagnostic phase of the treatment should be considered "invasive".

Charles Oler, DDS, FICD
Coordinator
Dental Services Training
Nova Scotia Institute of Technology
Halifax, N.S.

AN OVERSIGHT

This letter concerns an article published in this journal entitled "Citric Acid Burnishing of Dentin Root Surfaces. A Preliminary Scanning Electron Microscopy Report", Can. Dent. Assoc. J. *53*, 395-397, 1987. In the material and methods section, I failed to note and did not consider that the teeth we used had been stored in 10% formalin. This may have been a key to the results we observed. Work is currently under way looking into this factor and I hope to publish these results in the near future.

I apologize to you and your readers for this oversight on my part.

John D. Sterrett, DDS, Cert. Perio
Assistant Professor & Head
Division of Periodontics
Department of Restorative Dentistry
Dalhousie University
Halifax, N.S.

JCDA — LESS ACADEMIC?

I was rather disappointed to learn recently that it is intended that the Journal content be moved in a less academic direction. I need hardly point out to you that the Journal of the Canadian Dental Association is the only national dental publication of original communication. The depletion of academic content in the Journal would mean that Canadian faculty would have further limitation placed on their ability to publish in a Canadian journal. This seems to me to be a very retrograde step and I hope that the Publications Committee, or whoever else has made this decision, will give it further consideration.

Ralph I. Brooke, Dean
Faculty of Dentistry
University of Western Ontario
London, Ontario

Editor's Note: The CDA Publications Committee is concerned that this unfounded impression exists, and the Committee Chairman, *Dr. John Hardie*, has replied to Dean Brooke as follows:

"Thank you for expressing an interest in the Journal. It is intended to publish on a regular basis, articles of a clinical or practical nature, written by general dentists or dental faculty members. This action will not detract from the established principle of publishing, on a monthly basis, original refereed articles by Canadian dental scientists and academicians.

The Publications Committee recognizes the valuable contribution by Canadian dental faculties and wishes to assure them that the Journal will continue to serve their needs, thereby enhancing the quality and reputation of Canadian Dentistry.

Dental implant regulations

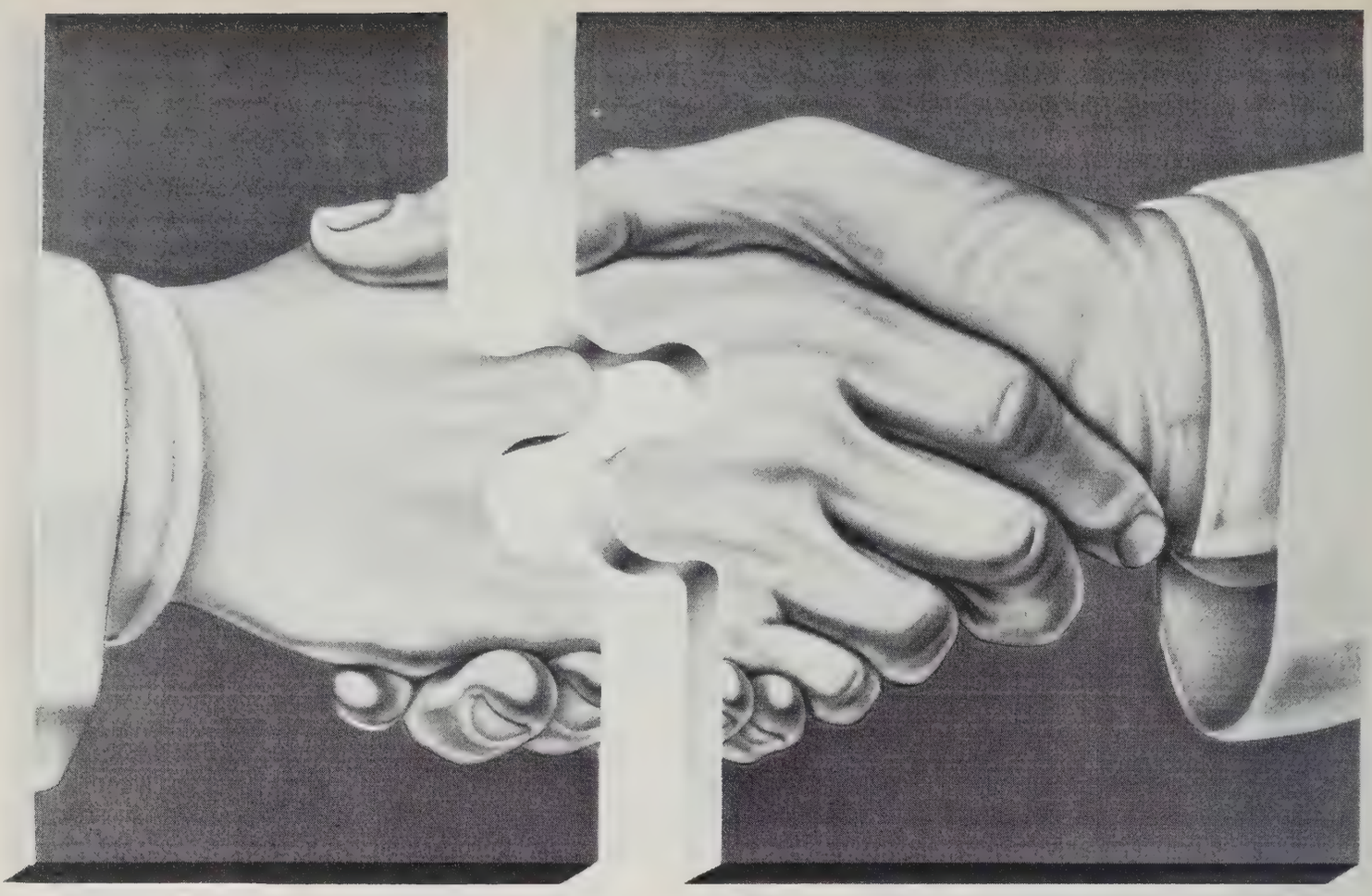
The evidence submitted by the following manufacturers pursuant to Section 28(1) of the Medical Devices Regulations is not sufficient. Therefore, these manufacturers are prohibited from selling the listed devices as of November 16, 1987, unless further evidence is submitted to the Branch and the manufacturers are notified in writing that the further evidence is sufficient:

Règlements touchant les implants dentaires

Les preuves fournies par les fabricants suivants en vertu de l'article 28(1) des règlements sur les instruments médicaux sont insuffisantes. Conséquemment, ces fabricants sont interdits de vendre les instruments ci-dessous identifiés à compter du 16 novembre 1987, à moins de soumettre des preuves supplémentaires au Directeur et d'être avisés par écrit que ces preuves supplémentaires sont suffisantes.

Manufacturer / Fabricant	
Core-Vent Corporation	Miter Inc.
Device / Instrument	
Core-Vent Implants 3.5, 4.5 and 5.5 mm (non-sterile)	Synthograft
Core-vent Attachment and insert (non-sterile)	Titanaloy Implants
Titanium Coping Insert (non-sterile)	Titanaloy Submersible Implant System
Polysulfone Attachment and Coping Inserts (non-sterile)	Synthdont Implants

Individuals wanting to know the status of a new product or wanting to have a copy of the Medical Devices Regulations, may address their inquiries to Premarket Review, Division of Clinical Assessment, Health Protection Branch, Health and Welfare Canada, Environmental Health Centre, Tunney's Pasture, Ottawa, Ontario. K1A 0L2, or call (613) 954-0386.



Travailler en équipe
pour une bouche de qualité

Chez le patient adulte, les maladies péridentaires ont atteint des proportions alarmantes. Ce fléau ne peut être contrôlé sans une étroite collaboration entre le dentiste généraliste et le périodontiste.

À titre de praticien général, vous êtes en mesure de diagnostiquer et de traiter les maladies péridentaires dès leurs premières manifestations. Toutefois, quand vous référez vos patients, le périodontiste se fait un devoir de vous informer du plan de traitement et de compléter le travail dans des délais raisonnables. Vous êtes alors en mesure d'entreprendre ou de poursuivre vos traitements dans les meilleures conditions.

Le périodontiste est un associé des plus importants. En effet, ses conseils ne feront que renforcer la motivation de vos patients à suivre votre plan de traitement. Travaillons de concert afin d'atteindre notre objectif commun, soit d'offrir une dentisterie de haut standard.

De vos collègues périodontistes, vos associés en santé buccale.

Académie canadienne de périodontologie
Suite 210, 5, Fairview Mall, Willowdale (Ontario) M2J 2Z1

Continuing Education

Sponsoring Institution Address	Location of Course	Title of Course	Subject Area	Date	Style	Instructor	Registration	Fee	Audience	Contact person/ Telephone
Continuing Education in Dentistry, Dalhousie University, 5981 University Ave. Halifax, N.S. B3H 3J5	Dalhousie University (will be repeated in various Atlantic Province centres in response to demand.	Computers in Your Practice	Practice Management	March 26 1988	Participation	Mr. Doug. Schaller	Limited to 10	TBA	GPs Office Managers	Kate MacDonald (902) 424-2248
Continuing Education in Dentistry, Dalhousie University, 5981 University Ave. Halifax, N.S. B3H 3J5	Dalhousie University (will be repeated in various Atlantic Province centres in response to demand.	Sonics in Endodontic Therapy	Endodontics	April 30	Lecture Participation	Dr. Ken. Zakariasen	Limited to 30	TBA	Specialists	Kate MacDonald (902) 424-2248
Continuing Education in Dentistry, Dalhousie University, 5981 University Ave. Halifax, N.S. B3H 3J5	Various locations in Halifax	Dental Hygiene 25th Anniversary Alumnae - - - - - 2 Half day lecture sessions	1. New Face of Dental Hygiene. 2. Maintaining Peak Performance	June 23 to 26	Lecture Social	1. Michelle Darvey 2. Dr. Brad MacRae	Open	N/A	Dalhousie Dental Hygiene Alumnae	Kate MacDonald (902) 424-2248
Atlantic A.G.D. 100 Arden St. Suite 608 Moncton, N.B. E1C 4B7	Halifax Sheraton	Cosmetic Dentistry		Jan. 30 1988	Lecture	Dr. Norman Feigenbaum	Open	TBA	GPs	Dr. Steve O'Brien (506) 857-4068
McGill University Faculty of Dentistry 740 Docteur Penfield Montréal, Qué. H3A 1A4	Montréal	Osseointegrated Implants. A Course in Prosthodontic Aspects	Oral Rehabilitation	March 4 & 5	Participation	Drs. K. Bentley, N. Dibai, & D. Kepron	Limited to 40	TBA	GPs Specialists Lab. Technicians	Mrs. Olga Chodan (514) 398-7221
University of Toronto Faculty of Dentistry 124 Edward St. M5G 1G6	Faculty of Dentistry Toronto	New Wave Endodontics	Endodontics	Jan. 14 1988	Lecture	Dr. Noah Chivian	Open	$175	GPs	Mai Pohlak (416) 979-4503-4
University of Toronto Faculty of Dentistry 124 Edward St. M5G 1G6	Faculty of Dentistry Toronto	Oral Medicine (Evening series 6:30 – 10 p.m.)		Jan. 21 Feb. 25 March 24 April 21	Lecture	Dr. Charles O. Munroe	Open	$100 per lecture	GPs Hygienists	Mai Pohlak (416) 979-4503-4

Continuing Dental Education

Sponsoring Institution Address	Location of Course	Title of Course	Subject Area	Date	Style	Instructor	Registration	Fee	Audience	Contact person/ Telephone
University of Toronto Faculty of Dentistry 124 Edward St. M5G 1G6	Palm Springs California	Fun in the Sun	Perio-Endo Symposium	Feb. 14 to 21		Convenor Dr. Barry H. Korzen	Open	$350 (Cdn.)	GPs	Mai Pohlak (416) 979-4503-4
University of Toronto Faculty of Dentistry 124 Edward St. M5G 1G6	Faculty of Dentistry Toronto	Fissure Sealants	Paedo Preventive	Feb. 20	Participation	Dr. H. Stein	Limited to 24	$175	GPs Hygienists	Mai Pohlak (416) 979-4503-4
University of Toronto Faculty of Dentistry 124 Edward St. M5G 1G6	Faculty of Dentistry Toronto	Surgical Endodontics	Endodontics	March 3	Lecture Demo.	Dr. Wayne Pulver	Open	$175	GPs	Mai Pohlak (416) 979-4503-4
University of Toronto Faculty of Dentistry 124 Edward St. Toronto, Ont. M5G 1G6	Faculty of Dentistry Toronto	Photography in Dentistry		March 11	Demo. Participation	Rita Bauer	Limited to 12	$175	GPs Hygienists Assistants	Mai Pohlak (416) 979-4503-4
University of Toronto Faculty of Dentistry 124 Edward St. Toronto, Ont. M5G 1G6	Faculty of Dentistry Toronto	Periodontics Level I	Perio	March 21-23	Lecture Participation	Dr. D. Deporter	Limited to 16	TBA	GPs Hygienists	Mai Pohlak (416) 979-4503-4
University of Toronto Faculty of Dentistry 124 Edward St. Toronto, Ont. M5G 1G6	Faculty of Dentistry Toronto	Seminars: I. TMJ II. Occlusion III. Restorative Dentistry		I. March 25, 26 II. April 29, 30 III. May 30, 31	Participation	Dr. Clifford Fox, Jr.	Limited to 24	TBA	GPs	Mai Phlka (416) 979-4503-4
University of Toronto Faculty of Dentistry 124 Edward St. Toronto, Ont. M5G 1G6	Faculty of Dentistry Toronto	Participation Program in Endodontics (1 to 4:30 p.m.)	Endodontics	May 19 Also – May 26	Participation	Dr. Wayne Pulver	Limited to 30	$350	GPs	Mai Pohlak (416) 979-4503-4
University of Toronto Faculty of Dentistry 124 Edward St. Toronto, Ont. M5G 1G6	Faculty of Dentistry Toronto	Periodontics Level II (Prerequisite: Perio. Level I)	Perio	May 16 to 18	Participation	Program Director: Dr. D. Deporter	Limited to Eight	$400	GPs	Mai Pohlak (416) 979-4503-4
University of Toronto Faculty of Dentistry 124 Edward St. Toronto, Ont. M5G 1G6	Faculty of Dentistry Toronto	Orthodontics for the GP	Orthodontics	May 30 to June 3	Lecture Participation	Dr. G. Altuna	Limited to 24	$900	GPs	Mai Pohlak (416) 979-4503-4

Continuing Dental Education

Sponsoring Institution Address	Location of Course	Title of Course	Subject Area	Date	Style	Instructor	Registration	Fee	Audience	Contact person/ Telephone
University of Toronto Faculty of Dentistry 124 Edward St. Toronto, Ont. M5G 1G6	Faculty of Dentistry Toronto	Restorative Dentistry		June 16 & 17	Lecture Participation	Dr. Jim Brown	Open	$350	GPs	Mai Pohlak (416) 979-4503-4
University of Toronto Faculty of Dentistry 124 Edward St. Toronto, Ont. M5G 1G6	Mount Sinai Hospital Toronto	Sports Dentistry Symposium	Protective Sports Equipment	June 24 & 25		Dr. Norman Levine	Open	$275 DDS $175 Aux.	GPs Hygienists Assistants Coaches etc.	Mai Pohlak (416) 979-4503-4
Ontario Dental Association & Essential Dental Supply 234 St. George St., Toronto, Ont. M5R 2P1	Toronto	Post and Cores: Getting to the Root of the Problem	Endodontics	Feb. 26 1988	Lecture	Drs. J. Sorensen, D. Nathanson, A. Nayyar, J. Nicholls, A. Deutsch, B. Musikant	Open	$200	GPs Specialists Hygienists Assistants	Teresa Fiorini (416) 922-3900
University of Western Ontario Dental Science Bldg., London, Ont. N6A 5C1	London, Ont.	Electrosurgery in General Practice	General Dentistry	Jan. 22 1988	Lecture Demo. Participation	Dr. D.R. Gratton, Course Director	Limited to 20	$225	GPs	Mrs. Najet Hassan (519) 679-2111 (Local 6136)
University of Western Ontario Dental Science Bldg., London, Ont. N6A 5C1	London, Ont.	Functional and Fixed Orthodontics for the General Practitioner	Orthodontics	Jan. 22 1988	Lecture Demo. Participation	A.H. Mamandras, Course Director	Limited to 20	$190	GPs	Mrs. Najet Hassan (519) 679-2111 Extension 6136
University of Western Ontario Dental Science Bldg., London, Ont. N6A 5C1	London, Ont.	"Update 88"	General Dentistry	Jan. 30 1988	Lecture	Dr. G.Z. Wright	Open	$150	GPs Specialists	Mrs. Najet Hassan (519) 679-2111 Extension 6136
University of Western Ontario Dental Science Bldg., London, Ont. N6A 5C1	London, Ont.	The Occlusion Series Course II: A Gnathologic Waxing Course	Occlusion	Feb. 5 & 6	Lecture Participation	Dr. W.R. Teteruck Course Director	Limited to 16	$500	GPs	Mrs. Najet Hassan (519) 679-2111 Extension 6136
University of Western Ontario Dental Science Bldg., London, Ont. N6A 5C1	London, Ont.	Removable Partial Dentures	Prosthodontics	Feb. 11 to 13	Lecture Participation	Dr. P.S. Sills Course Director	Limited to 24	$425	GPs Lab, Technicians	Mrs. Najet Hassan (519) 679-2111 Extension 6136
University of Western Ontario Dental Science Bldg., London, Ont. N6A 5C1	London, Ont.	Guiding the Developing Dentition	Paedodontics	Feb. 26 & 27	Lecture Participation	Dr. G.Z. Wright J. Kapala	Limited to 20	$250	GPs Specialists	Mrs. Najet Hassan (519) 679-2111 Extension 6136

Continuing Dental Education

Sponsoring Institution Address	Location of Course	Title of Course	Subject Area	Date	Style	Instructor	Registration	Fee	Audience	Contact person/ Telephone
University of Western Ontario Dental Science Bldg., London, Ont. N6A 5C1	London, Ont.	Aesthetic Restorative Dentistry	General Dentistry	March 3, 4, 5	Lecture Participation	Dr. D.R. Gratton & Dr. R.E. Jordan	Limited to 30	$525	GPs	Mrs. Najet Hassan (519) 679-2111 Extension 6136
University of Western Ontario Dental Science Bldg., London, Ont. N6A 5C1	London, Ont.	Osseointegration (Branemark Dental Implants) in Clinical Dentistry	Oral and Maxillofacial Surgery	April 4 & 5	Lecture Demo.	Dr. D.H. Charles Dr. George Zarb	Limited to 20	$1,000	GPs Specialists	Mrs. Najet Hassan (519) 679-2111 Extension 6136
University of Western Ontario Dental Science Bldg., London, Ont. N6A 5C1	London, Ont.	Occlusion Series III. A Practical Approach to Occlusal Equilibration	Occlusion	April 8 & 9	Lecture Participation	Dr. W.R. Teteruck	Limited to 16	$600	GPs Lab. Technicians	Mrs. Najet Hassan (519) 679-2111 Extension 6136
University of Western Ontario Dental Science Bldg., London, Ont. N6A 5C1	London, Ont.	Computer Applications in Dentistry	Computers	April 22 & 23	Lecture Participation	Drs. D.M. Kogon D.W. Johnston	Limited to 30	TBA	GPs Assistants Receptionists	Mrs. Najet Hassan (519) 679-2111 Extension 6136
University of Western Ontario Dental Science Bldg., London, Ont. N6A 5C1	London, Ont.	Nitrous Oxide-Oxygen Conscious Sedation & Update CPR & Recertification	Oral and Maxillofacial Surgery	May 11 to 13	Lecture Participation	Dr. A.G. Parnell	Limited to 22	$400	GPs	Mrs. Najet Hassan (519) 679-2111 Extension 6136
University of Manitoba Faculty of Dentistry 780 Bannatyne Ave. Winnipeg, Man. R3E 0W3	Winnipeg	Pharmacology Update		Jan. 9 1988	Lecture	Fred Cowan, PhD	Open	$115 DDS $50 Aux.	GPs Specialists Hygienists Assistants	Karen McLean (204) 788-6331
University of Manitoba Faculty of Dentistry 780 Bannatyne Ave. Winnipeg, Man. R3E 0W3	Winnipeg	Advanced Endodontics in General Practice	Endodontics	Feb. 6	Lecture	Marwan Abou-Rass, DDS, MDS, PhD	Open	$115 DDS $50 Aux.	GPs Specialists Hygienists Assistants	Karen McLean (204) 788-6331
University of Manitoba Faculty of Dentistry 780 Bannatyne Ave. Winnipeg, Man. R3E 0W3	Winnipeg	Osseointegrated Implants: the State of the Art	Implantology	Feb. 20	Lecture	Dr. David Rusen	Open	$115 DDS $50 Aux.	GPs Specialists Hygienists Assistants	Karen McLean (204) 788-6331

Continuing Dental Education

Sponsoring Institution Address	Location of Course	Title of Course	Subject Area	Date	Style	Instructor	Registration	Fee	Audience	Contact person/ Telephone
University of Manitoba Faculty of Dentistry 780 Bannatyne Ave. Winnipeg, Man. R3E 0W3	Winnipeg	Adult Tooth Movement – A Theoretical and Technical Course		March 5	Lecture Demo. Participation	Dr. Ed. Yen	Limited to 30	TBA	GPs Specialists	Karen McLean (204) 788-6331
University of Manitoba Faculty of Dentistry 780 Bannatyne Ave. Winnipeg, Man. R3E 0W3	Winnipeg	CPR for the Dental Team		March 19	Demo. Participation	Dr. Ron Boyar	T.B.A.	TBA	GPs Specialists Hygienists Assistants	Karen McLean (204) 788-6331
University of Manitoba Faculty of Dentistry 780 Bannatyne Ave. Winnipeg, Man. R3E 0W3	Winnipeg	"Times Are Changing – Are You Ready?" Clinical Management of the Elderly Patient	Gerodontology	April 21 & 22	Lecture	Team of 9 Speakers	Open	$150 DDS $75 Aux.	GPs Specialists Hygienists Assistants Receptionists	Karen McLean (204) 788-6331
Continuing Professional Education University of Alberta Faculty of Dentistry 4063 Dentistry/ Pharmacy Bldg. Edmonton, Alta. T6G 2N8	Edmonton	Nitrous Oxide/ Oxygen Sedation Analgesis in Dental Practice	Anxiety and Pain Control	Jan. 23 1988	Lecture Demo. Participation	Dr. B.K. Arora & Associates	Open	TBA	GPs Specialists Hygienists Assistants	Dr. Alex Bene or Ms. Debbie Grant (403) 432-5023-8240
Continuing Professional Education University of Alberta Faculty of Dentistry 4063 Dentistry/ Pharmacy Bldg. Edmonton, Alta. T6G 2N8	Caribbean Cruise	Pathogenesis, Diagnosis & Management of Disorders Related to the TMJ	Oral Rehabilitation	Feb. 6 to 13	Lectures Demos.	Dr. K.E. Glover & Associates	Open	$295 DDS $125 Aux.	GPs Specialists Hygienists Assistants Office Assistants	Dr. Alex Bene or Ms. Debbie Grant (403) 432-5023-8240
Continuing Professional Education University of Alberta Faculty of Dentistry 4063 Dentistry/ Pharmacy Bldg. Edmonton, Alta. T6G 2N8	Edmonton	Dentists & Pharmacists in Practice: Drug & Substance Use/ Abuse	Practice Management	Feb. 27	Lecture	Drs. H. Dixon & L. Pagliaro	Open	$130	GPs Specialists Hygienists Assistants	Dr. Alex Bene or Ms. Debbie Grant (403) 432-5023-8240

Continuing Dental Education

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Continuing Professional Education University of Alberta Faculty of Dentistry 4063 Dentistry/ Pharmacy Bldg. Edmonton, Alta. T6G 2N8	Edmonton	Emergencies in the Dental Office	General Dentistry	March 5	Lecture	Dr. B.K. Arora & Associates	Open	$130	GPs Specialists Hygienists Assistants Receptionists	Dr. Alex Bene or Ms. Debbie Grant (403) 432-5023-8240
Continuing Professional Education University of Alberta Faculty of Dentistry 4063 Dentistry/ Pharmacy Bldg. Edmonton, Alta. T6G 2N8	Edmonton	Nobelpharma Osseointegrated Implants — Prosthetic Considerations	Oral Rehabilitation	March 25-26 also Aug. 18-19	Lecture Demo. Participation	Surgical & Prosthetic Implant Team	Open	TBA	GPs Specialists Lab. Technicians	Dr. Alex Bene or Ms. Debbie Grant (403) 432-5023-8240
Continuing Professional Education University of Alberta Faculty of Dentistry 4063 Dentistry/ Pharmacy Bldg. Edmonton, Alta. T6G 2N8	Edmonton	Treatment of Malocclusion Compromised by Periodontal Disease/ Tooth Loss	Orthodontics	April 8 and 9	Lecture Demo.	Dr. Robert Moyers University of Michigan	Open	$300	GPs Specialists Hygienists Assistants	Dr. Alex Bene or Ms. Debbie Grant (403) 432-5023-8240
Continuing Professional Education University of Alberta Faculty of Dentistry 4063 Dentistry/ Pharmacy Bldg. Edmonton, Alta. T6G 2N8	Edmonton	Bacterial Modulation by Antimicrobial Therapy Treatment for Periodontal Disease	Periodontics	April 16	Lecture	Dr. P.D. Schuller & Associates	Open	TBA	GPs Specialists Hygienists Assistants	Dr. Alex Bene or Ms. Debbie Grant (403) 432-5023 -8240
Continuing Professional Education University of Alberta Faculty of Dentistry 4063 Dentistry/ Pharmacy Bldg. Edmonton, Alta. T6G 2N8	Edmonton	Ideal Restorations for Esthetics, Utilizing Modern Ceramics	Oral Rehabilitation	April 23	Lecture Demo.	Drs. Keith Compton & Bernard Linke	Open	$140	GPs Specialists Hygienists Assistants	Dr. Alex Bene or Ms. Debbie Grant (403) 432-5023 -8240

Continuing Dental Education

Sponsoring Institution Address	Location of Course	Title of Course	Subject Area	Date	Style	Instructor	Registration	Fee	Audience	Contact person/ Telephone
Continuing Professional Education University of Alberta Faculty of Dentistry 4063 Dentistry/ Pharmacy Bldg. Edmonton, Alta. T6G 2N8	Calgary, Alta.	Endodontic Management of Traumatized and/or Resorbed Teeth	Endodontics	April 30	Lecture	Dr. C.E. Hawrish	Open	$120	GPs Specialists Hygienists Assistants	Dr. Alex Bene or Ms. Debbie Grant (403) 432-5023 -8240
Continuing Professional Education University of Alberta Faculty of Dentistry 4063 Dentistry/ Pharmacy Bldg. Edmonton, Alta. T6G 2N8	Edmonton	Enhancing Your Clinical Competency – A Participation Course	Dental Hygiene	May 2 to 6	Lecture Demo. Participation	Ms. Barbara Zier Ms. J. Pimlott & Associates	Limited to 40	$500	GPs Specialists Hygienists	Dr. Alex Bene or Ms. Debbie Grant (403) 432-5023 -8240
Continuing Professional Education University of Alberta Faculty of Dentistry 4063 Dentistry/ Pharmacy Bldg. Edmonton, Alta. T6G 2N8	Edmonton	Conscious Sedation in the Dental Practice	Anxiety and Pain Control	May 30- June 3	Lecture Demo. Participation	Dr. B.K. Arora & Associates	Limited to 16	TBA	GPs Specialists	Dr. Alex Bene or Ms. Debbie Grant (403) 432-5023 -8240
Continuing Dental Education Faculty of Dentistry, University of British Columbia, 2194 Health Sciences Mall, Vancouver, B.C. V6T 1W5	Vancouver	Esthetic and Reconstructive Dentistry	Prosthodontics	Jan. 30	Lecture	Drs. Craig Naylor Terry Morgan	Open	$110 DDS $65 Aux.	GPs Specialists Hygienists Assistants	Jane M. Wong (604) 228-2627
Continuing Dental Education Faculty of Dentistry, University of British Columbia, 2194 Health Sciences Mall, Vancouver, B.C. V6T 1W5	Vancouver	Treatment Challenges for Disorders of the Head, Neck and TMJ	TMJ	Feb. 6 & 7	Lecture	Dr. Terry T. Tanaka	Open	TBA	GPs Specialists Hygienists Assistants	Jane M. Wong (604) 228-2627

Continuing Dental Education

Sponsoring Institution Address	Location of Course	Title of Course	Subject Area	Date	Style	Instructor	Registration	Fee	Audience	Contact person/ Telephone
Continuing Dental Education Faculty of Dentistry, University of British Columbia, 2194 Health Sciences Mall, Vancouver, B.C. V6T 1W5	Vernon, B.C.	Oral Surgery in General Practice	Oral Surgery	March 5	Lecture	Dr. Myer S. Leonard	Open	TBA	GPs Specialists Hygienists Assistants	Jane M. Wong (604) 228-2627
Continuing Dental Education Faculty of Dentistry, University of British Columbia, 2194 Health Sciences Mall, Vancouver, B.C. V6T 1W5	Vancouver	Diseases of the Jaws: Clinical, Pathological and Radiological Correlations	Diagnosis	March 12	Lecture	Dr. Colin Price-Coordinator	Open	$110 DDS $65 Aux.	GPs Specialists Hygienists Assistants	Jane M. Wong (604) 228-2627
Continuing Dental Education Faculty of Dentistry, University of British Columbia, 2194 Health Sciences Mall, Vancouver, B.C. V6T 1W5	Vancouver	Current Orthodontic Treatment Concepts Relative to TMJ and Functional Appliances	Orthodontics	March 19	Lecture	Dr. Donald R. Joondeph	Open	$110 DDS $65 Aux.	GPs Specialists Hygienists Assistants	Jane M. Wong (604) 228-2627
Continuing Dental Education Faculty of Dentistry, University of British Columbia, 2194 Health Sciences Mall, Vancouver, B.C. V6T 1W5	Vancouver	Endodontic Restorative Update	Endodontics	March 26	Lecture	Dr. Marwan Abou-Rass	Open	$110 DDS $65 Aux.	GPs Specialists Hygienists Assistants	Jane M. Wong (604) 228-2627

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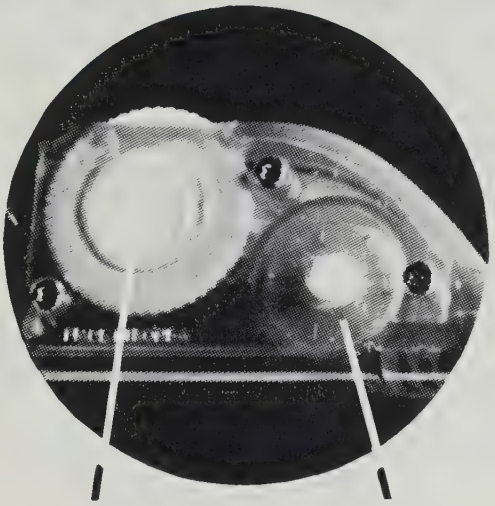

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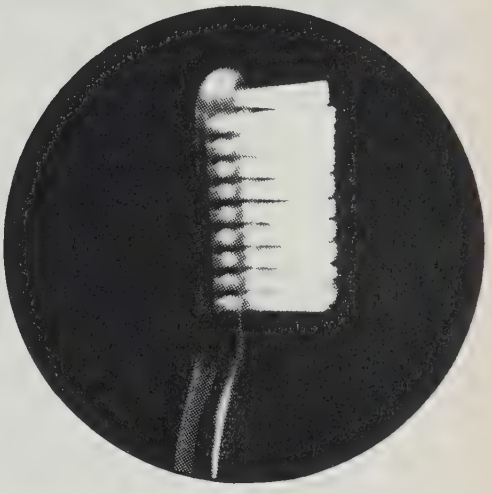

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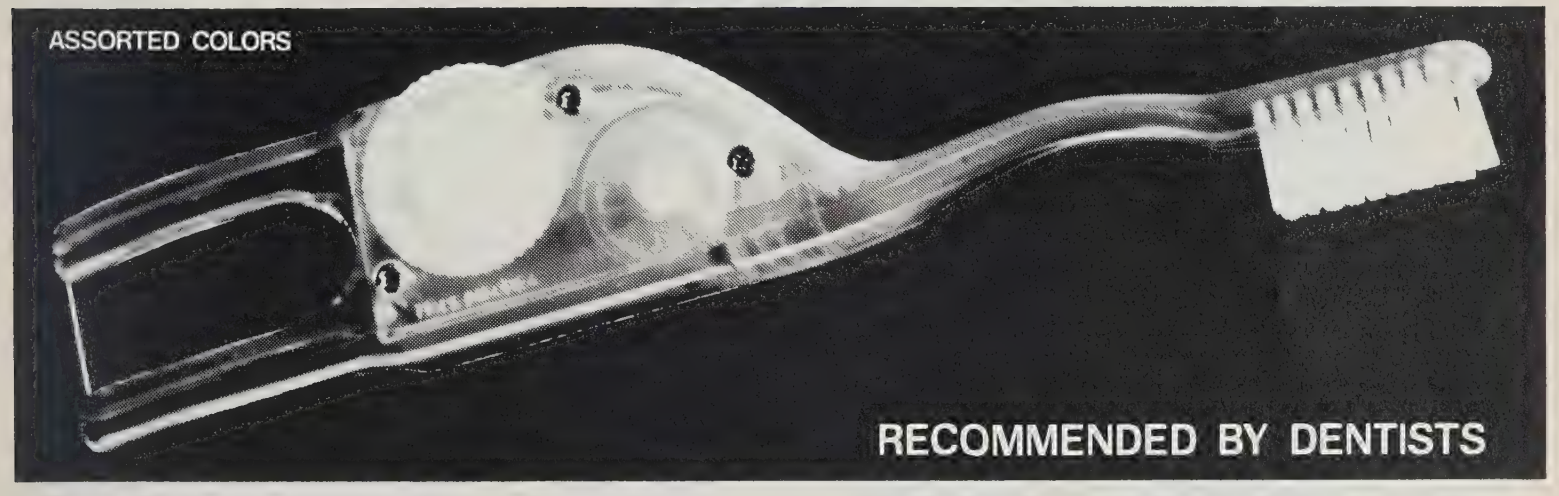

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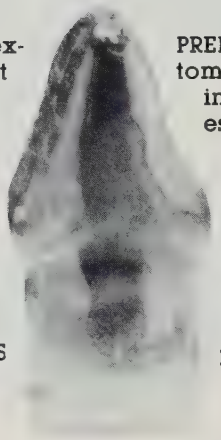

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DR. L.E. VAN BUSKIRK

PIONEER MARITIME DENTIST WAS FIRST TO USE ANAESTHETIC IN SURGICAL OPERATION IN CANADA

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SUMMARY

It was 140 years ago when an anaesthetic for a surgical operation was first administered in Canada. The person who administered ether for the amputation of a limb in Halifax, Nova Scotia, was Dr. L. Van Buskirk, considered by many as the first permanent dental practitioner of repute in Atlantic Canada.

On the wall in the main entrance foyer of the Faculty of Dentistry, Dalhousie University in Halifax, Nova Scotia, hangs a portrait of Dr. Lawrence Edward Van Buskirk, who is identified on the plaque beneath the painting as "the first man to administer an anaesthetic for a surgical operation in Canada"[1]. This event took place in Halifax 140 years ago. One may ask who was this Dr. L.E. Van Buskirk, who died in Dartmouth, Nova Scotia, on November 6, 1867, 120 years ago, and who was destined to become "the first permanent dental practitioner of repute"[2]. in Atlantic Canada.

His family emigrated to the Maritimes upon the end of the American Revolution, as United Empire Loyalists, from New Jersey. One branch of the family, led by Lt. Colonel Abraham Van Buskirk, an officer commanding the 3rd Batallion of the New Jersey Volunteers, settled in Shelburne, Nova Scotia. He became the first mayor of this newly founded Loyalist town. This small fishing village on the Nova Scotia South Shore, became for a brief moment in history, Canada's largest town. It was chosen by Imperial authorities for its deep, sheltered harbour. Approximately 10,000 Loyalist refugees were transported by the Royal Navy into this planned community in the spring and summer of 1783. Originally named Port Roseway, it was renamed Shelburne by Nova Scotia Governor John Parr in honour of the British Secretary of State who negotiated the Loyalist exodus from the United States.

Dr. O. Sykora

In 1783 the other branch of Van Buskirks was transported by the British fleet from New York City to what was to become Saint John, in the future New Brunswick. The Van Buskirks were indebted to Sir Guy Carleton, a British commander of Irish descent, for his refusal to surrender New York City until the last Loyalists had left in safety. It was early in May when the seven ships carrying some 3,000 Loyalists anchored off the mouth of the Saint John River. It was natural that the bulk of the refugees came to the Maritimes because of their accessibility by sea. Thus, five out of every six Loyalists who decided to flee to the North settled in Nova Scotia.

However, Lawrence's forefathers did not stay in Saint John very long. They first moved to Gagetown, New Brunswick, and eventually established themselves in the Annapolis Valley settlement of Aylesford, Nova Scotia.

Dr. L.E. Van Buskirk's grandfather certainly was not a pauper when his family escaped to the Maritimes. The family was able to bring with it several black slaves from the farm in New Jersey. While crossing the Bay of Fundy, the family lost all their deeds of sale, their papers and details of properties left in New Jersey, Lawrence's grandfather was eventually awarded an amount of 235 pounds on his original claim for 374 pounds and ten shillings[3].

Through hard work and proper social interaction, Lawrence's father, Henry, became a respected and successful citizen not only in Aylesford but in the Colonial Governmental circles in Halifax as well. The patriots (i.e., rebels) had sneered at the refugee Loyalists that they go to 'Nova Scarcity'. This sneer may have been true for some of the original settlers in Shelburne where Lawrence's other family branch moved. Shelburne prospered at the beginning because of government aid but few of the original settlers were experienced fisherman or loggers; also the land on the South Shore was too rocky for food farming. This was, however, not the case in the fertile Annapolis Valley. Lord Dalhousie's letter from March 16, 1820 can attest to the high regard in which Lawrence's father was held.

> *"It is my anxious desire to promote the further settlement of the Province, and I have long been convinced that by placing this trust in the hands of respectable Country Gentlemen near any new settlement is the best and most certain way to advance it. With you, Mr. Buskirk, I feel the fullest confidence, because I know the respect that is felt towards you in that neighborhood, and I beg you to believe that I have it not in my power to express more strongly than I do by this act, the respect that I personally entertain for you"*[4].

Lawrence Edward, the eldest surviving son of Henry, born November 6, 1799, was originally meant to follow in his father's footsteps and become a respected country squire. He was also commissioned a Captain in the first Battalion of King's County Militia. But his ambition did not allow him to be content to just take care of the family farm, orchards and general store. Interested

in medicine, he studied at Columbia University in New York City. Upon graduation in 1829, Lawrence Edward decided to set up his practice in his native Maritimes in Woodstock, New Brunswick.

However, the busy life of a physician began to affect his health. Only after five short years of general practice, Lawrence Edward was forced to give it up due to deterioration of his health. During the enforced period of convalescence, unable to remain idle, he decided to study dentistry.

What was the status of the dental profession at this time in the Maritimes? At the beginning of the 19th century, few dentists came direct to this region from England or France. The majority, however, came from the Eastern part of the United States. Such would be the case of Dr. Wentworth Shaw, who arrived to the Maritimes from Maine and offered his services to the citizens in Charlottetown, Prince Edward Island. He practiced during the winter months at the Victoria Hotel, but reassured his conservative female patients that "ladies waited on at their residences if required". Who said that dentists do not make house calls? Another American dentist, Dr. Clement, visited the Maritimes, but being smarter than Dr. Shaw would come only during the summer months. For a complete denture, he would charge $10 and "a perfect fit warranted in all cases, or no pay"; his amalgam fee was set at $0.50.

From France the most notorious dentist was the elegant Dr. Gourard, who came to Saint John from Paris, in 1833. He left the town suddenly and disappeared after running into debt and leaving his numerous creditors to look for him in vain.

More successful was one of his compatriots Dr. Louis de Chiverie, also from Paris. To impress the Maritimers with his flair while travelling between Nova Scotia, New Brunswick, and Prince Edward Island, he would frequently enter a community in a carriage drawn by four white stallions. He appears to have been a pioneer in overdenture treatment since he advertised that his constructed artifical teeth could be inserted "with or without extracting the roots". The good doctor besides stating that his "advice is given daily" and of course "free of charge" appeared to be in the possession of a dental Elixir "for purifying the mouth and preserving teeth". This elixir also would keep "the mouth in a constant state of freshness and health". If this would not be enough de Chiverie was also ready to sell Maritimers an 'infallible remedy for the toothache' in a form of a tooth powder[5].

Art rather than science flourished frequently with itinerant dentists who were often dedicated amateurs. Some of the travelling dentists were truly peddlars of

Dr. L.E. Van Buskirk. A portrait of this pioneer dentist in Atlantic Canada hangs in the foyer of the Faculty of Dentistry at Dalhousie University, Halifax, N.S.

hope and by the time their patients, (or victims?) realized that the promised cure did not perform the intended miracle, their hero was already kilometers away. Since the itinerant dentists had to advertise in local newspapers to attract the attention of potential clientele, there we find a rich source of contemporary information on the practice of dentistry at the beginning of the 19th century in the Maritimes.

Only a few dentists who decided to stay and settle in a community were ever able to devote all their time to their chosen field. The majority of them had dentistry as a sideline employment; frequently they had other part-time jobs as the advertisement in the Saint John Courier of August 8, 1844 will testify:

> *"T. Hutchinson, dentist, — is prepared to execute with promptness all orders in the list of his profession. Incompatible teeth set on gold plates or pivots, from one to full sets, as may be required — extracting, sealing, and plugging teeth done in the best manner. Clocks, watches and jewellery repaired"*[6].

The first dental advertisement in Saint John, where Dr. Lawrence Edward Van Buskirk decided to open his dental practice, is from February 8, 1823, by a certain Mr. Rath. Saint John was a large thriving Loyalist city. It is not a well known fact that in 1858 Saint John was a larger town than Halifax; whereas Quebec city had a population of 51,000 and Montreal only of 75,000; Saint John had a population of 27,300. It certainly could support several resident dentists. Dr. A.J. McAvenney of Saint John describes the following in the article on the "Early History of Dentistry in New Brunswick":

> *"Two brothers named Van Buskirk practiced dentistry here in 1840. The first time that ether was administered in Saint John for extracting teeth was in the office of the Van Buskirks by Dr. William Bayard. Dr. Bayard tells a very amusing story of all the precautions he took with his lady patients, and also the preparations made by the dentists in case the patient gave signs of being at all unruly. If she had been a raving maniac she could not have been more closely secured before they attempted to administer the anesthetic. This was in 1844, shortly after Dr. Horace Wells, the American dentist, discovered surgical anesthesia"*[7].

It should not come as a surprise to an astute observer that the discovery of surgical anaesthesia by Dr. H. Wells from Boston was felt so soon in Saint John and that it would have been in the Maritimes that ether was administered for the extraction of teeth. The flow of commerce and people before the confederation of 1867 was along the North-South axis. The Maritimes, often called the 14th colony in pre-revolutionary times of the struggle for American independence, had more affinity to the "Boston States" than to remote Upper and Lower Canada.

The Van Buskirk brothers, however, did not have their dental practices in Saint John for very long. The younger of the two, George Pitt, stayed just long enough to get married to a beautiful daughter of a prominent local family, Miss Reid. By 1851, he already moved to Halifax, induced by the will of his father, Henry, who wanted him to come back to his native province. But George and his wife did not stay in Nova Scotia for more than a few years. Already in October 1855 he had purchased the practice and the residence of Dr. W.H. Elliott on Beaver Hall Hill, in what was then considered one of the more fashionable districts of downtown Montréal. George Van Buskirk became one of the leading Montréal dentists and many future Québec dental practitioners served their apprenticeship under his guidance. He died in Montréal on March 18, 1866 and is buried at the Mount Royal Cemetery on Côte-des-Neiges Road.

Another brother of Dr. Lawrence Edward became a dentist and an apothecary in Halifax. Doctor Robert Van Buskirk (1804-33) thus unknowingly followed a tradition in the earliest Acadian settlement of Port Royal, founded by Champlain in 1605 on the Bay of Fundy. There, Louis Hébert, an apothecary also, was entrusted with a task to practice medicine and would have treated dental emergencies as well[8].

Just like his younger brother, Dr. Lawrence Edward also left Saint John for Halifax, where he married a young lady of interesting parentage. Mary Elizabeth's mother was generally believed to be the daughter of a young French lady and His Royal Highness, the Duke of Kent. Because Julie de St. Laurent was considered a commoner, she could not marry the Duke who had to return from Halifax to England to marry a German princess and produce an heir to the throne – the future Queen Victoria. Julie died heartbroken in a Belgian convent.

Mary Elizabeth and Dr. Lawrence Edward were married in St. Paul's church in Halifax and soon became part of Halifax high society. Lawrence's dental practice renown increased when he began, just as he did in Saint John, to extract teeth with the use of ether. ''Dr. L.E. Van Buskirk had made an inhaler and for the last year has used ether for over 100 extractions''[9] wrote the Royal Gazette from February 16, 1848. That Dr. L.E. Van Buskirk was the first to administer general anaesthetic in Canada is an undisputed fact. Dr. D.M. Parker, a physician who became aware of Lawrence's use of anaesthesia for dental extractions decided to call upon his assistance. Dr. D.M. Parker wrote that:

> *''Lawrence Van Buskirk, a dentist practising in Halifax, learned that ether was being used by inhalation in practical dentistry, visited Boston and familiarized himself with its use. On his return, having a case that required amputation of a femur went to Van Buskirk's office and asked him to administer ether to him, as he personally would have some knowledge of its action. The next day, Van Buskirk administered ether, the limb was amputated''*[10].

It is also of interest to note that Dr. L.E. Van Buskirk was the first Canadian dentist who subscribed in 1839 to a dental journal, namely the American Journal of Dental Science.

Shortly before his death, Lawrence Edward wanted to leave for posterity the saga of his family's arrival to Nova Scotia and recorded in 1865 in Dartmouth the following:

The first Van Buskirk, or Van Boskoerck in America settled in New Jersey in the early part of the seventeenth century, and there acquired considerable estate. On the breaking out of the American Revolution my Grandfather being a Staunch Loyalist left his property and with four sons and a daughter came into the British lines; and the family for a time lived in New York, Long Island. After the war was over the family removed to Saint John, New Brunswick and thence proceeded up the Saint John River and settled at Maugerville near Fredericton. Shortly after they removed to Nova Scotia and for awhile lived near Kentville, on a farm afterwards called the Curry place; from thence removed to Aylesford and lived on a property which was later purchased from Daniel Bowen. Uncle Garret being the oldest son occupied adjoining property; he left a family and died about 1860 aged 96 years. Uncle John purchased a farm in Wilmot, where he died at an advanced age and left a family. Uncle Abraham returned to the States, and after making a competency as a Merchant he retired to his Country seat at Athens on the North River; he died in New York about 1820, leaving two sons and two or three daughters. Henry, my father, lived on the homestead at Aylesford (where his family were all born) and died there in 1841, aged 74 years. M. Harris the daughter died I think in Cornwallis advanced in years and left a family. My grandfather was offered a Colonel's commission in the Colonial forces when the British Army occupied New York but declined the offer. As much as I can recollect about him, he was a man of mark, honourable and honest to the letter – one of the old Knickerbockers – but not ambitious. Uncle Garret formed an expedition to Quebec under a Colonial or British commander, I have forgotten which, but returned to New York and left with his father for Saint John.

A Captain Van Buskirk in the Colonial forces came to Halifax from New York with his Regiment and fought a duel near the City shortly after. He was a relative but this is all I know about him.

(Sigd) Lawrence E. Van Buskirk
Dartmouth N.S. 1865

On the same day when a Haligonian newspaper described the surrender of General Robert E. Lee at Appomatox, Virginia, and hailed the event as the end of the ''war between the States'', in the obituary column one could read the following paragraph:

Deaths

Suddenly, on the 6th Nov. Dr. L.E. Van Buskirk. Funeral this day, Saturday, from his late residence, at Dartmouth, at 3 o'clock, p.m. to cross in the boat, leaving Dartmouth at quarter to 4 o'clock p.m. Friends and acquaintances are requested to attend without further notice[12].

Dr. Lawrence Edward Van Buskirk died in Dartmouth, Nova Scotia on November 6, 1867, 68 years of age; but his contributions to the advancement of dentistry as a profession in the Maritimes or for that matter, in the whole of Canada itself, is not forgotten.

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SURGICAL CROWN LENGTHENING IN PERIODONTICS

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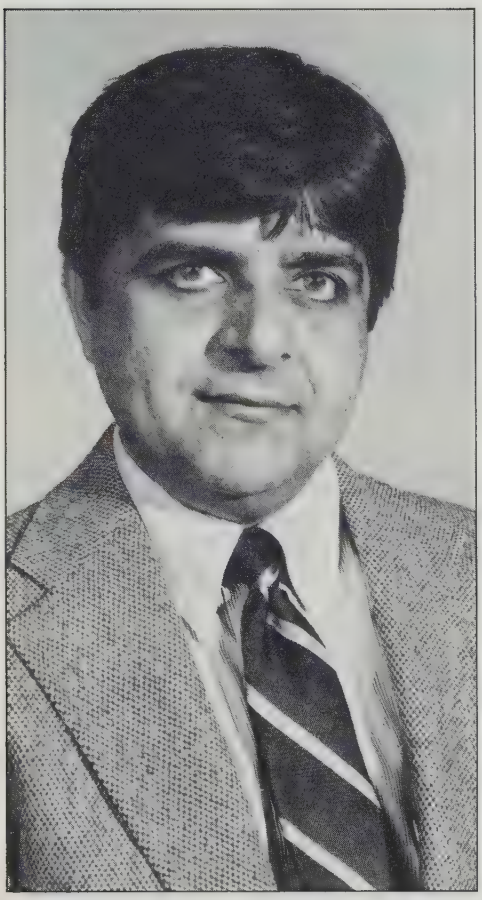
Milwaukee, Wisconsin

INTRODUCTION

There is a close interdependence and intimate relationship between restorative dentistry and health of the periodontium. In recent years, periodontal considerations appear to be quite prominent throughout all the disciplines of dentistry; restorative dentistry, in particular, seems quite responsible for periodontal requirements and consequences. This is one of the reasons why a sound knowledge of periodontal biology is indispensable to restore partially edentulous mouths to health, function, comfort and esthetics.[1]

*Restorative considerations that determine the success of the final prosthesis are esthetics, form, function, retention and marginal seal. In some situations where a small clinical crown is present due to fracture, extensive caries, excessive wear or developmental abnormalities, and an inadequate area for retention of a cast restoration is recognized, it is often necessary to perform periodontal tooth lengthening to ensure successful restoration of teeth (***Figs. 1** *and* **2**). *The increased clinical crown procedure provides a sound tooth structure and an adequate area for crown retention without extending the crown margins deep into the periodontal tissues. It has been substantiated that a healthy periodontal attachment is an essential consideration in the long-term prognosis of a restored tooth.*[2-6]

The objective of this paper is to discuss the importance of "biologic width" in the restoration of teeth that have been destroyed due to caries or fractured down to the level of alveolar crest. The rationale and case reports demonstrating the practical aspects of the periodontal surgical crown lengthening procedure are presented.



Dr. Vijay K. Pruthi

AVANT-PROPOS

Il y a une corrélation et un rapport très étroits entre la dentisterie restauratrice et le parodonte. Depuis quelques années, les considérations d'ordre parodontal semblent très importantes dans toutes les disciplines dentaires; la dentisterie restauratrice surtout semble se montrer très responsable touchant les exigences et les conséquences d'ordre parodontal. C'est l'une des raisons pour lesquelles une bonne connaissance de la biologie du parodonte est indispensable pour restaurer les bouches partiellement édentées pour qu'elles recouvrent la santé et leurs fonctions normales avec confort et beauté.

*Pour déterminer le succès des prothèses définitives, les critères à prendre en considération sont l'esthétique, les fonctions, la forme, la rétention et les joints marginaux. Dans certains cas où l'on a posé une couronne à cause d'une fracture, de caries profondes, d'une grande usure ou d'anomalies de croissance, et où l'on note une zone de rétention inadéquate pour une restauration coulée, il est souvent nécessaire de procéder au rallongement parodontal des dents pour assurer le succès des restaurations (***fig. 1** *et* **2**). *Cette procédure offre une bonne structure dentaire et une zone adéquate pour retenir la couronne sans en étendre les bords profondément dans les tissus parodontaux. On a démontré qu'une saine attache parodontale est un facteur qu'on doit prendre en considération dans le prognostic à long terme d'une dent restaurée.*

Fig. 1. Lingual view of a fractured mandibular left second pre-molar requiring crown lengthening procedure. Note short clinical crown as a result of fracture.

Fig. 2. Radiograph of the maxillary left first pre-molar depicting pin root perforation. This is another clinical situation indicating crown lengthening procedure.

Fig. 3. Supragingival margins of crown restoration on mandibular left first molar. Note well adapted and healthy gingiva below the crown margins.

Dans cet article, il sera question de l'importance de la "largeur biologique" dans la restauration des dents détruites par des caries ou fracturées jusqu'à la crête alvéolaire. De plus, on parlera du bien-fondé du rallongement du parodonte pour les couronnes et on présentera des cas démontrant les aspects pratiques de cette procédure.

BIOLOGIC WIDTH: CLINICAL CONSIDERATIONS

The functional unit of the dentogingival junction composed of three parts from the alveolar bone are: (a) connective tissue attachment averaging 1.07 mm in width;[7] (b) epithelial attachment averaging 0.97 in width[7] and referred to as the junctional epithelium;[8] and (c) sulcus depth, which varies with each patient, averaging 0.69 mm in width. The combined dimension of the connective tissue attachment and the junctional epithelium has been described as "biologic width;"[9] the biologic width is approximately 2.04 mm. This dimension becomes critical when one considers restoration of a tooth that has been destroyed by caries or fractured near the level of the crest of the bone.[10-12] If restoration of a tooth violates the biologic width, it will inevitably result in periodontal inflammation, deepening of the pockets, destruction of connective tissue attachment, loss of alveolar bone, and, ultimately, an overt condition of periodontitis will be induced. In order to prevent this pathological process, provision must be made to re-establish the biologic width. This may be accomplished by surgically lowering the alveolar crest 2-3 mm from the anticipated margin of the restoration. Therefore, it is of utmost significance to avoid impingement on the biologic width during restorative dentistry, and all surgical and restorative procedures must be performed to maintain this dimension. The goal of maintaining the biologic width will ultimately determine the extent of osseous surgery during tooth lengthening procedure as well as the placement of the margins of a restoration.[10,13]

SUBGINGIVAL RESTORATION — ITS CONSEQUENCES

Subgingival margins are etiologic factors in gingival inflammation.[14-16] Clinical and histological studies have revealed that gingival inflammation is more prominent in areas where subgingival margins of restorations are present, regardless of the material used.[2,6] Not only subgingival margins with overhanging restorations or marginal deficiencies have a detrimental effect on the periodontium, but so do well adapted margins.[3-5] If subgingival restorations occur

interproximally, it results in osseous cratering and becomes unmanageable hygienically. Apical migration of the junctional epithelium occurs, and a periodontal pocket develops.

INTRACREVICULAR RESTORATIVE MARGINS

In restorative dentistry, supragingival margins are the most desirable (**Fig. 3**). Preservation of an intact dentogingival unit with the margin of the restoration slightly coronal to the free margin of the gingiva is considered the optimum for periodontal health. However, there are legitimate indications for extending a margin into the gingival crevice. Among the most common reasons for intracrevicular placement of margins are: esthetics, removal of caries or faulty restorations, obtaining an adequate retention, and prevention of root sensitivity.[17] Intracrevicular margins are defined as those placed into and confined within the gingival crevice. The term "intracrevicular" is more limiting and descriptive than the phrase "subgingival margins." Subgingival margins often extend beyond the gingival crevice into the junctional epithelium and supra-alveolar connective tissue fibres. This causes marginal and papillary gingivitis which may progress to periodontitis. Therefore, intracrevicular restorative dentistry refers to all restorations and restorative techniques which are confined within the gingival crevice. To prepare a tooth for an intracrevicular margin, a minimum depth of 1.5 mm to 2 mm is suggested if the margin is to be covered by the free gingiva. It has been suggested that if crevice depth is less than 1.5 mm, the patient and the therapist must be content with supragingival margins.[18] Therefore, it is important to realize that intracrevicular dentistry has its specific place and significant role in the everyday practice setting. And, every effort should be made not to place margins of restorations subgingivally, otherwise an inflammatory process will ensue.

RATIONALE AND SURGICAL TECHNIQUE

The clinical situations indicating crown lengthening procedures are: (1) fractured teeth, (2) caries, (3) retrograde wear, (4) altered passive eruption, (5) overeruption, and (6) root perforation (**Figs. 1** and **2**). The decision to sacrifice a mutilated tooth rather than restoring it, must be based on sound treatment planning after considering all alternatives available so as not to deprive the patient of optimum care. There are alternatives in many situations and the dentist must be aware of their place in therapy.[19] A correct diagnosis is indispensable and must precede the surgical

Fig. 4. Maxillary right lateral incisor has small clinical crown due to developmental abnormality; treatment planned for crown lengthening procedure and, finally, porcelain-fused-to-metal restoration.

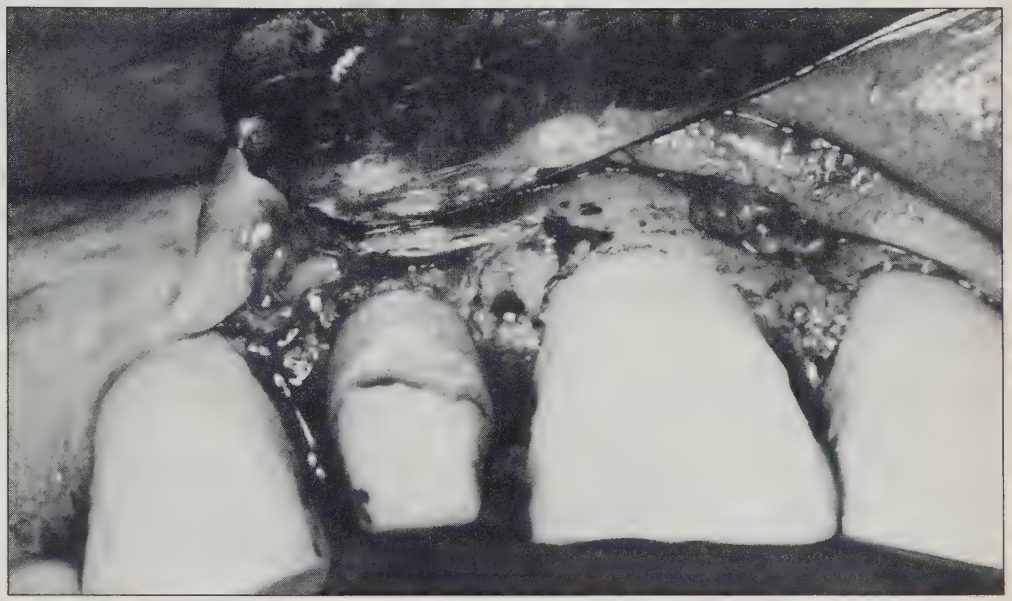


Fig. 5. Illustrates full-thickness mucoperiosteal flap reflection around maxillary right lateral incisor to maxillary left central incisor.

Fig. 6. Shows 3 mm of ostectomy performed around maxillary lateral incisor from the anticipated crown margins in order to permit reformation of the new dento-gingival complex.

Fig. 7. Apical positioning of flap and continuous sling silk suturing from maxillary right lateral incisor to left central incisor.

Fig. 8. Crown lengthening procedure completed with 4 weeks healing. Note: this procedure helped the clinician with enough sound tooth structure to restore the tooth without violating the biologic width.

Fig. 9. Final porcelain-fused-to-metal restoration. Note the esthetics is maintained.

crown lengthening as a clinical choice. Factors that must be considered and judged prior to the initiation of therapy and decision to retain a particular tooth depends upon: (1) esthetics, (2) clinical root length and bone support after periodontal surgery, (3) root proximity, (4) root morphology, (5) furcation location, (6) the strategic position of the tooth in the arch, (7) condition of adjacent teeth, (8) the anatomic limitations of surgery, (9) the ability to restore teeth, (10) the patient's oral hygiene status and commitment to periodic recall after periodontal surgery and restoration.[12,20] Treatment methods to manage a mutilated tooth include strategic extractions, osseous surgery (periodontal crown lengthening procedure), and in selected cases, forced eruption.[20,21] Tooth lengthening procedures can be surgical only or combined endodontic, orthodontic, and periodontic.

Periodontal surgery crown lengthening is aimed at the removal of bone and the apical positioning of the soft tissue to permit reformation of the new dentogingival complex. This procedure provides the clinician with enough tooth structure to restore the tooth without violating the biologic width. A classic crown lengthening procedure includes an internal bevel incision, and a full-thickness mucoperiosteal elevation laterally and interproximally (**Figs. 4** and **5**). When exposing the alveolar bone, the internal bevel is desirable for a number of reasons: (1) it produces an adequate gingival margin on the flap, (2) it preserves keratinized gingival tissue, and (3) it provides a flap design that can be placed in an advantageous position.[22] Furthermore, every effort should be made not to violate the basic surgical principles. If surgical principles are violated, the flap will slough, bone may be necrosed, and healing may be delayed and painful.[23] If sound tooth structure between the bone and the margin of the tooth defect is less than 3 mm, the crest of the alveolar bone should be trimmed to allow a 3 mm zone of sound tooth structure coronal to the alveolar crest (**Fig. 6**). This will allow a dimension of at least 1 mm for the re-establishment of the supra-alveolar connective tissue fibres and another 1 mm for the reformation of junctional epithelium. An additional dimension of a minimum of 1 mm should also be created for regeneration of gingival crevice. This biologic width of 3 mm is essential to the achievement of a sound periodontium adjacent to the restoration. Following ostectomy and osteoplasty, the flap is sutured at the tooth bone junction (**Fig. 7**). A dressing is placed for seven days, and postoperative instructions are given. Tooth preparation within four to six weeks of dressing removal is suggested, provided the crevice is not entered by the

rotary instrument and the therapist may also consider a restorative margin just at the crest of gingival tissue (**Figs. 8** and **9**).[17] As the dentogingival complex matures, the gingival margin frequently may creep coronally to cover some or all of the restorative margin. This only occurs in the presence of a precisely finished and properly contoured margin and if adequately attached keratinized tissue is present. If the shallow crevice is naturally occurring, creeping attachment of the gingiva may not be expected in health.[17]

Crown lengthening procedures can also be performed by gingivectomy in cases of suprabony defects or pseudopocketing. It is also possible to force eruption of a tooth by extruding it orthodontically.[20,21] With forced eruption, bone also erupts coronally along with the erupting tooth. Consequently, periodontal treatment such as osseous surgery may still be necessary as a second-stage procedure, depending upon the bony configurations and topography that result after forced eruption.

DISCUSSION

Crown lengthening procedures are one of the most under-utilized forms of periodontal therapy that can be employed to facilitate complex restorative problems.[24] Final preparations and finishing procedures are easier to perform and accessible to cleansing when the clinical crown length has been increased. Surgical crown lengthening also provides treatment of a periodontal lesion, if one is present. This procedure also provides access to the root surfaces for thorough root instrumentation and correction of osseous defects while maintaining an adequate band of keratinized gingiva. On the other hand, it is of utmost importance not to perform a surgical procedure when the tooth fractures extend into the middle third of the root.[11] Injudicious osseous surgery on the fractured tooth and excessive blending of osteoectomy over adjacent teeth may result in esthetic problems, poor crown-to-root ratio, excessive mobility or furcation involvement. Orthodontic extrusion or extraction is more prudent in such instances.

If "biologic width" is violated by dental restorations and the procedures, inflammation, deep pocket formation, and irreversible alveolar bone loss often result. For enduring integrity of the healthy periodontium, the cervical margin of the restorations must be at least 2-3 mm coronal to the bone crest. As Baima[12] noted, "crown lengthening is not a panacea for decayed, fractured or perforated teeth. However, when indicated, it is a valuable adjunct in solving complex restorative problems."

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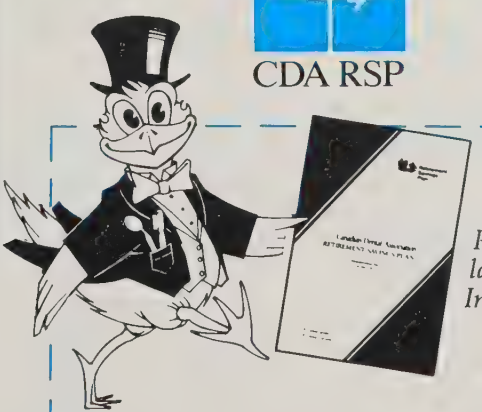

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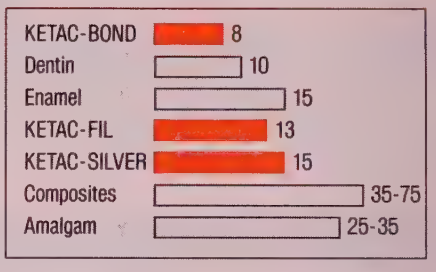

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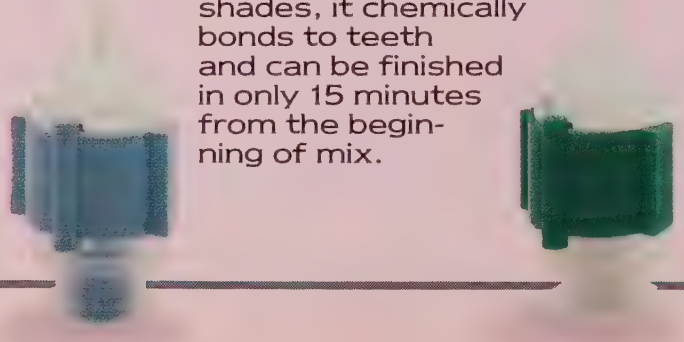

THE FINAL RESULTS OF THE SHERBROOKE–LAC MÉGANTIC FLUORIDE VARNISH STUDY

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INTRODUCTION

Topical fluoride varnishes have been available for professional use in Canada for about 15 years. Representing an alternative topical fluoride agent for professional application, neither Durafluor (formerly known as Duraphat) nor Fluor Protector have apparently been widely accepted by the Canadian dental profession. Several reasons help to explain this situation. First, neither product has been aggressively marketed, and second, both products are more expensive than the fluoride gels and solutions which most dentists currently use. Third, most of the research on these agents emanates from Europe and traditionally the dental profession in North America has been slow to accept new products and procedures unless they are approved and tested in North America. Moreover, some of the European clinical studies testing the varnishes have suffered from experimental design flaws.[1-4] Consequently, little credibility has been ascribed to these studies. Because European and North American in vitro *and* in vivo *research has consistently demonstrated the theoretical advantages of fluoride varnishes,[5-10] there was a need to launch a major North American clinical trial. This paper reports the five-year final results of the first North American controlled clinical trial on both commercially available fluoride varnishes.*

AVANT-PROPOS

Les vernis topiques au fluorure sont disponibles au Canada pour usage professionnel depuis environ 15 ans. Bien qu'ils constituent d'autres produits fluorurés que les professionnels peuvent utiliser à des fins topiques, ni Duraflor *(auparavant* Duraphat*) ni* Fluor Protector *ne semblent être bien populaires auprès des praticiens dentaires canadiens. Plusieurs raisons peuvent expliquer pourquoi. Premièrement, aucun de ces deux produits n'a été poussé sur le marché. Deuxièmement, tous deux sont plus dispendieux que les gels et les solutions fluorurés que la majorité des dentistes utilisent actuellement. Troisièmement, la plupart des recherches effectuées sur ces produits viennent d'Europe et, suivant la tradition, en Amérique du Nord la profession dentaire tarde à accepter tout nouveau produit ou toute nouvelle procédure qui n'y a pas été agréé et testé. De plus, quelques études cliniques faites en Europe sur les vernis fluorurés présentaient des lacunes sur le plan expérimental. Aussi leur a-t-on accordé peu de crédit. Parce que les recherches* in vitro *et* in vivo *effectuées des deux côtés de l'Atlantique ont régulièrement démontré les avantages théoriques des vernis fluorurés, on a reconnu qu'il fallait entreprendre un essai clinique d'importance en Amérique du Nord. Dans cet article, on trouvera les résultats définitifs du premier essai clinique surveillé effectué pendant cinq ans en Amérique du Nord avec les deux vernis fluorurés qui sont disponibles sur le marché.*

The literature on fluoride varnishes has proliferated in recent years, and several comprehensive reviews have been published.[11-13] Existing reviews emphasize the advantage of prolonged contact between fluoride and the tooth surface, thus enabling a higher level of fluoride uptake into the outer surface of enamel and dentine. The most recent *in vitro* and *in vivo* research has generally confirmed earlier work.[14-20] However, all of these reports have noted

that further clinical research is needed.

Recent clinical studies have again failed to clearly identify the benefits of this preventive procedure in well controlled clinical trials.[21-26] For example, Bruun and co-workers[21] compared the benefits derived from semi-annual treatments with Duraphat to those obtained from mouthrinsing fortnightly with 0.2 per cent NaF. After three years, their results showed that the two treatment groups had essentially identical caries increments. Unfortunately, no placebo control group could be included in the study and a low level of caries was observed in the study population. Kirkegaard and co-workers[23] carried out an identical study, and after five years demonstrated similar findings. Seppa and Pollanen[25] also tested the same procedures, again with no control group, but they included a third group that received semi-annual treatments with Fluor Protector. In contrast to the other studies, the Duraphat group had significantly less tooth decay than both the mouthrinse and the Fluor Protector groups after a two-year period. In contrast to the Bruun and Kirkegaard studies, however, participants in Seppa's study experienced high caries increments. These findings suggest the possibility that the preventive effect of fluoride varnishes may be best demonstrated when teeth are most at risk.

Two other clinical investigations have looked at prevention of caries on individual tooth surfaces of the permanent molars. Holm and co-workers[22] demonstrated significantly less pit and fissure caries on permanent first molars after two years and four treatments with Duraphat. Modéer et al[24] found that the progression of proximal caries was significantly reduced after four Duraphat treatments each year for three years when compared to a control group.

The efficacy of Fluor Protector applied annually for three years was assessed by Van Eck and co-workers[26] in a small study in an area with a relatively high level of dental caries. Their results showed that there were no significant differences between the caries increments for the control and Fluor Protector groups. These negative results were attributed to the common use of other fluoride preventives, to the infrequent application of the varnish, and to the effect of self-brushings instead of a professional prophylaxis prior to the fluoride application.

To summarize, the literature points to the benefits of applying fluoride varnishes to prevent dental caries, but important inconsistencies and study design flaws exist that obscure the true efficacy of these agents. Furthermore, clinical studies suggest that Duraphat may be more efficacious than Fluor Protector. Therefore the purpose of this study was to compare and evaluate both fluoride varnishes in a well designed longitudinal clinical trial for children living in a non-fluoridated area in North America.

METHODS

Interim results of this study have been published previously, and a thorough description of the study methods can be found elsewhere.[27] To summarize, Sherbrooke and Lac Mégantic, Quebec, were selected as the study sites because of the level of organization of the local public dental program and because both communities were without fluoridated water supplies, and were likely to remain so. Approximately 1,000 first grade children (6-7 years old) in 17 different schools were given parental consent forms and subsequent permission to participate was received from the parents of 850 children.

With the exception of the study examinations, local dental public health personnel carried out all clinical activities. There were no attempts to eliminate exposure to other routine forms of caries prevention, i.e., the use of fluoride dentifrices and supplements, and topical fluoride treatments from area dentists. All children examined at baseline were stratified by dental age, previous caries experience and sex, and group assignments were made randomly from within each of the resulting partitions. The study was double blind; neither the examiners nor the participants were aware of group assignment.

Following allocation into groups, children received semi-annual treatments. Group I children were treated with Fluor Protector, Group II with Durafluor, and Group III with water and thus served as the controls. A thorough prophylaxis was performed on each child prior to fluoride varnish or placebo applications. Treatments with varnishes were not scheduled within 90 minutes of the lunch or dinner hours.

Prior to baseline, two examiners and their recorders participated in calibration exercises. All subsequent examinations were performed in the schools using standardized visual and tactile criteria for the detection of dental caries.[28] Inter-examiner reliability was measured from duplicate examinations of approximately 10 per cent of the study population.

The data from the study were analyzed using the Statistical Analysis Systems (SAS) package. Descriptive statistics for the caries increments were generated, and used to compare data from the three study groups. Significance of differences in caries incre-

TABLE I

Permanent and Deciduous Teeth Present and Baseline Caries Prevalence for Original and Continuous Participants*

	Baseline Scores of 787 Original Participants				Baseline Scores of 549 Continuous Participants+			
Group	N	#Dec Teeth	#Perm Teeth	Baseline DMFS	N	#Dec Teeth	#Perm Teeth	Baseline DMFS
Fluor Protector	232	16.5	4.4	0.44	160	10.1	19.7	0.23
Durafluor	280	16.7	5.1	0.45	200	9.9	20.0	0.42
Control	275	17.1	4.9	0.36	189	10.2	19.1	0.34

* None of the differences between the group means are statistically significant.
+ Five years attrition rate over three groups was 30 per cent.

TABLE II

Mean DMFS Increments for Continuous Participants after 32 and 56 Months

		Increments		
Groups	N	32 Months	56 Months	56 Months Reduction
Fluor Protector	160	2.36*	3.67	14.0
Durafluor	200	2.54*	3.15*	27.0*
Control	189	3.15	4.30	–

*Reductions statistically significant from control group at $p \leq .05$.

ments between the test and control groups was assessed using Duncan's Multiple Range procedure.

RESULTS

In the Fall of 1981, 787 participants were examined at baseline, out of a possible 850 eligible children. At the final examination 56 months later, 549 (70 per cent) of the original participants were available for examination and had participated continuously in the study. The baseline caries experience and the dental age of original and continuous participants are shown in **Table I**. These data reflect the similarity among the three groups relative to baseline caries experience and dental age. Assessing the significance of existing disparities using the Duncan's Multiple Range test failed to reveal any statistically significant differences.

The caries reductions in the permanent dentition are demonstrated in **Tables II, III** and **IV**. Results in **Table II** detail mean DMFS increments for children in the three groups after 32 and 56 months. The data seem to demonstrate an increasing and continuous preventive effect from semi-annual treatments with Durafluor and a diminished benefit from Fluor Protector. Of additional interest is the fact that the control group increment in these 11- and 12-year-old children after 56 months is less than one decayed, missing or filled tooth surface per year.

The surface specific results in **Table III** demonstrate that both varnishes were effective in preventing occlusal and buccal surface caries. However, it appears that Fluor Protector failed to demonstrate effectiveness on the lingual surface, but this surface increment was notably small. On proximal surfaces at 56 months, again increments were small; however, increments were large enough to demonstrate some markedly different findings. While Durafluor showed significant benefits, Fluor Protector failed to prevent caries on proximal surfaces. The increments for decayed and filled surfaces are specified in **Table IV**. Out of 549 participating children, not one permanent tooth was lost in the study population after nearly five years. This finding and the high percentage of the caries experience found in the filled component reflect the high level of treatment these children have received. Despite this intense level of care, the efficacy of Durafluor was demonstrated both in the decayed and filled components.

DISCUSSION

This paper presents the final results of a controlled clinical trial which assessed the preventive benefits from a professionally applied topical fluoride procedure. It is noteworthy to mention that after 56 months, a change in baseline DMFS scores during the study period was observed that suggests children in one of the groups might be at lower risk to dental caries. Despite the fact that the actual difference in the Fluor Protector group was only 0.11 DMFS surfaces less than the control group, and 0.19 surfaces less than the Durafluor group, the results after five years suggest that children in this group might actually have been at higher risk. While these baseline differences were not statistically significant, if these children were low risk, one might have expected greater caries reductions in this group. This was not observed, thus one might conclude that our results still represent a valid evaluation of the agents.

Several outcomes of this five-year study are noteworthy. First, contrary to our original expectations, the incidence of dental caries in this group of children from Quebec was low, further demonstrating the dental caries decline in Quebec.[29] Originally, the study location was thought to be ideal because higher levels of disease were anticipated. After the fact, it seems obvious that the caries decline is generally universal in most populations in North America.

An important observation from this study was the fact that the benefits of Durafluor were demonstrated despite the low level of disease and the high level of treatment. One might draw two conclusions from this observation. First, the agent must work. Second, dentists in the study area appeared to be assessing the carious status of teeth in a conservative way, thus permitting the fluoride varnish to demonstrate its preventive effect.

Another important observation from this study focuses on the conservation of permanent teeth, apparently because of the high level of care and attention these chil-

TABLE III

Mean DMFS Increments by Type of Surface for Continuous Participants – 56 Month Results

Groups	N	Increment 32 Months	Increment 56 Months	56 Month % Reduction
Fluor Protector	160			
Occlusal		1.38	1.98*	20.0
Buccal		0.45*	0.56*	35.0
Lingual		0.35	0.37	0
Proximal		0.20	0.76+	−29.0
Durafluor	200			
Occlusal		1.47*	1.97*	20.0
Buccal		0.48	0.60*	31.0
Lingual		0.41	0.24*	37.0
Proximal		0.17	0.35*	41.0
Control	189			
Occlusal		1.79	2.47	
Buccal		0.67	0.87	
Lingual		0.48	0.38	
Proximal		0.22	0.59	

*Reductions statistically significant from control group at $p \leq .05$.
+Difference statistically significant from Durafluor group at $p \leq .05$.

TABLE IV

Mean Decayed and Filled Increments for Continuous Participants after 56 Months

Groups	N	Increments Decayed	Filled	Total	Percent of increment Filled
Fluor Protector	160	0.38	3.29	3.67	90
Durafluor	200	0.23	2.92	3.15*	93
Control	189	0.32	3.98	4.30	93

*Reduction statistically significant from control group at $p \leq .05$.

dren are receiving, both from local dentists and from public dental programs in the schools. Children are being seen regularly, and permanent teeth are not being lost.

As previously stated, the benefits from semi-annual professionally applied topical fluorides were demonstrated both in the permanent and primary dentitions[27] in this study. This observation further warrants the use and promotion of proven preventive technologies for children considered to be at risk to dental caries. Thus public and private insurance programs should continue to pay and promote prevention for children who need it. In an era of a perceived lack of busyness within the profession, prevention must not be lost. However, the question demonstrated by these data has been a topic of considerable discussion. What preventive technologies are best suited for the pattern of dental caries currently being observed in school children? Data in **Table III** demonstrate that approximately 85 per cent of the decayed tooth surfaces are found on occlusal, buccal or lingual surfaces. The likely clinical picture would show pit and fissure decay which could be prevented almost completely by the placement of pit and fissure sealants. Considering that the use of professionally-applied topical fluorides are both labour-intensive and only marginally effective, this points to the need to consider either less costly procedures like fluoride mouthrinsing or more effective methods like pit and fissure sealants. Unlike the situation 20 years ago, it seems clear that the indication for use of professionally applied topical fluorides today rests with high risk individuals who need the benefits of several preventive technologies.

It was disappointing that Fluor Protector essentially failed to have any preventive effect on proximal surfaces, but interestingly, it was reasonably efficacious on occlusal and buccal surfaces. When the literature on Fluor Protector is studied, one would expect a good preventive effect from this agent on all smooth surfaces because of the high fluoride uptake on smooth tooth surfaces.[10,20,30] This effect has not been demonstrated in this study. One could speculate that the varnish is not penetrating the proximal space, but given the clinical procedure, little more could be done to ensure penetration of the agent into this area. Consequently, the conclusion of negligible benefits from Fluor Protector is suggested from our results, confirming similar findings from several other studies.[26,31] To date, clinical research has suggested that Duraphat is more effective than Fluor Protector.[25] While in the present study there was not a statistically significant difference between the Fluor Protector and Durafluor groups, the data suggest the superiority of the NaF varnish.

In conclusion, this study demonstrated the efficacy of the fluoride varnish Durafluor in the prevention of dental caries. It accomplished this objective despite low caries activity and an extremely high level of treatment. Thus, the profession should consider the use of this fluoride varnish when selecting an agent for topical fluoride use. Not only is it effective, but the amount of fluoride ingested by the patient is considerably less than the amount ingested when APF systems are used.[27,32]

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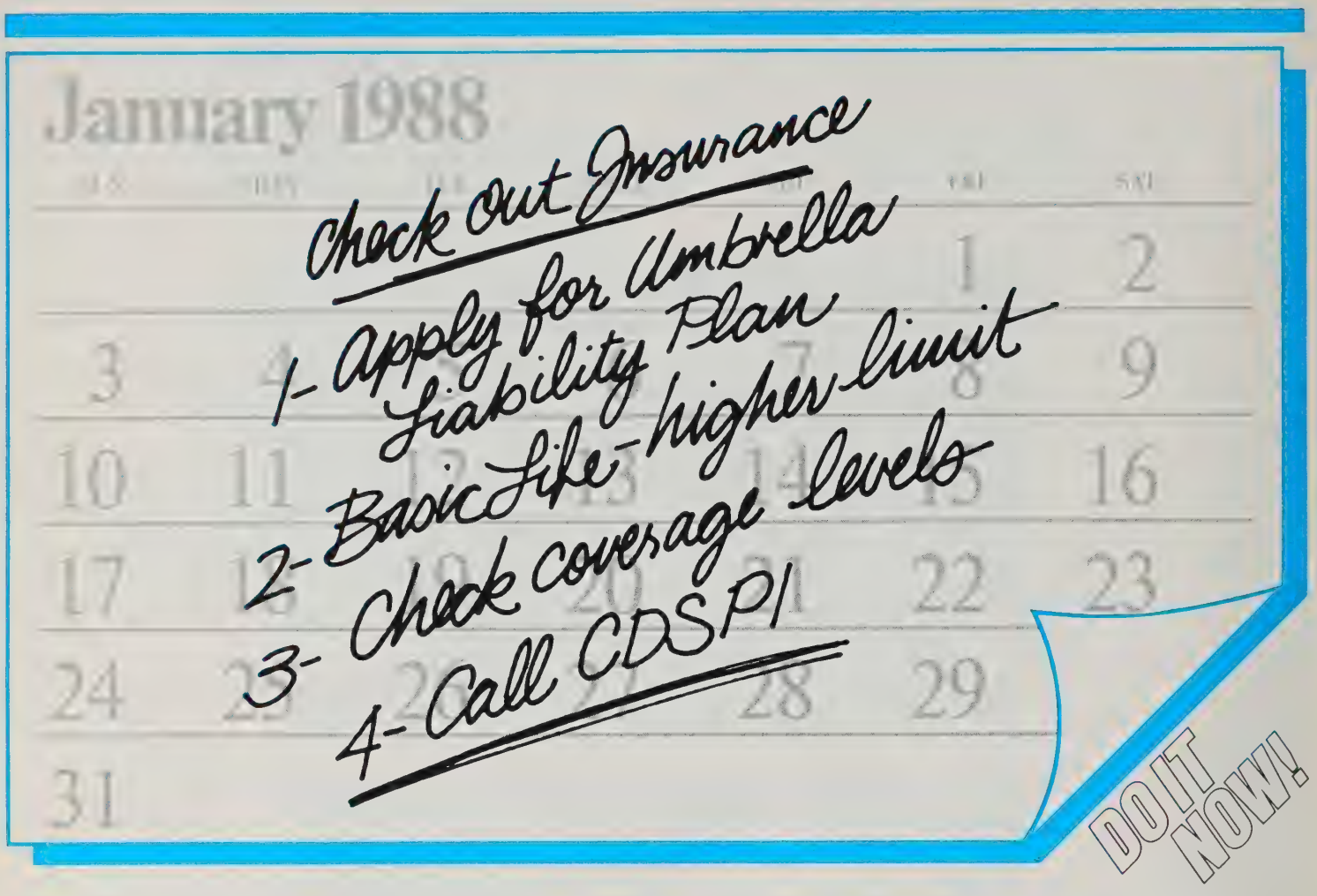

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MISE À JOUR SUR LES PRODUITS

DÉSINFECTANTS ET STÉRILISANTS: 1987

Michel Lévy, DMD
Jean Robert, MD, MSc, FRCP

RÉSUMÉ

La réglementation des produits désinfectants et stérilisants ainsi que les méthodes employées pour déterminer leur efficacité soulèvent depuis quelque temps de profondes controverses. Cet article a pour but d'éclaircir la nature de ces controverses afin d'aider le dentiste à mieux comprendre le rôle des produits germicides en pratique dentaire. Une évaluation succincte des produits courants sera ensuite présentée.
mots clés: *Désinfection, prévention, infection, stérilisation.*

SUMMARY

The evaluation and regulation of disinfectants and sterilants, in the absence of safety and efficacy data has raised serious controversies. This article will elucidate the nature of these controversies and summarize the role of germicide solutions in the dental setting.
Key words: *Disinfection, prevention, infection, sterilization.*

Le milieu de la pratique dentaire est propice à la transmission de diverses maladies infectieuses. Les modes de stérilisation par chaleur sèche, par autoclave et par vapeur chimique sont toujours les méthodes de choix à être employées pour les instruments qui pénètrent l'espace intrabuccal, cependant les restrictions imposées par l'équipement et par l'environnement exigent parfois l'utilisation de produits germicides.

La ''stérilisation à froid'' est un procédé chimique qui détruit toutes formes de micro-organismes sans exception. Le seul produit germicide qui répond actuellement à cette définition est le glutaraldéhyde, bien que le chlorure de dioxide semblerait lui aussi posséder des propriétés stérilisantes. La désinfection est un terme moins absolu qui implique la survie de certains micro-organismes, particulièrement les spores.

La plupart des équipes dentaires choisissent un produit germicide en se référant aux dépliants des fabricants et aux annonces publicitaires paraissant dans les revues dentaires. Une analyse plus approfondie révèle une inconsistance dans la réglementation de ces produits et remet en question leurs degrés d'efficacité et de sécurité. Ceci découle principalement du manque de données scientifiques provenant de laboratoires indépendants ainsi que du manque de méthodes évaluatives approuvées. De plus, il existe des différences dans la réglementation de ces produits entre les États-Unis et le Canada. Plusieurs produits américains sont distribués localement sans approbation officielle.

L'évaluation de l'efficacité des produits stérilisants et désinfectants qui était faite aux États-Unis par l'Environment Protection Agency (E.P.A.) a été interrompue en 1982 à la suite de coupures de budget[3]. Actuellement, peu de laboratoires indépendants aux États-Unis continuent à effectuer l'évaluation de ces produits. Au Canada, les fabricants de ces produits doivent soumettre à la Direction générale de la santé, des preuves à l'appui de leurs affirmations relativement à l'efficacité de leurs produits mais généralement, cet organisme gouvernemental ne les soumet pas à des épreuves effectuées par des laboratoires indépendants.

Bien que certains fabricants soumettent leurs produits à des protocoles très rigoureux, il y aurait lieu de croire que d'autres études seraient sérieusement biaisées[4]. De plus, il semblerait que la méthode d'essai de l'Association of Official Analytical Chemists (AOAC) qui sert à évaluer les produits germicides aux États-Unis et au Canada serait déficiente à cause de nombreuses variables incontrôlables[2,5]. Les faiblesses de cette méthode deviennent apparentes lorsque les résultats obtenus par les laboratoires indépendants ne corroborent pas ceux des fabricants. Effectivement, le tiers des produits désinfectants évalués par un laboratoire subventionné par l'État de Floride échouèrent aux épreuves réalisées par l'A.O.A.C.[2].

La méthode d'essai du A.O.A.C. semble aussi être inadéquate pour déterminer l'action tuberculocide de ces produits. Au Canada, les fabricants sont tenus de soumettre leurs produits à d'autres méthodes supplémentaires afin d'appuyer leurs assertions selon lesquelles les produits en question sont efficaces contre le Mycobacterium tuberculosis.

La nature très compétitive du marché donne souvent lieu à des déclarations très exagérées dans les annonces publicitaires. Souvent ces mêmes affirmations n'apparaissent pas sur l'étiquette du produit ni sur les imprimés qui l'accompagnent, ceux-ci étant soumis à un contrôle plus sévère[6].

Le E.P.A. ne permet pas aux fabricants de produits DÉSINFECTANTS de revendiquer une efficacité contre les virus du Sida (HIV) et de l'hépatite B (HBV) sur l'étiquette du produit parce qu'il considère qu'aucune méthode d'évaluation adéquate pour vérifier leur efficacité contre ces virus n'a été présentée à cet organisme.

Le E.P.A. consent cependant à ce que les fabricants de produits STÉRILISANTS annoncent leur efficacité contre le HIV et le HBV sur l'étiquette en se basant sur l'hypothèse qu'étant sporicides (tuberculocides), ils peuvent inactiver les virus moins résistants que les spores.

Une des études à laquelle les fabricants se réfèrent le plus souvent dans leur publicité fut publiée par le Center for Disease Control (CDC) en 1983 (J. Clin. Microbiol. 18.535-538). Cinq formulations différentes furent évaluées relativement à leur efficacité contre le HBV: l'alcool isopropyl 70 pour cent, l'hypochlorite de sodium 500 ppm, le glutaraldéhyde 2 pour cent, le glutaraldéhyde-phénate ainsi qu'une formulation d'iodophore.

Bien que le CDC se basa à l'époque sur cette étude pour effectuer ses recommandations relatives au HBV et au HIV, il considère actuellement que ses conclusions étaient prématurées. Toutefois, les fabricants de produits DÉSINFECTANTS peuvent se référer légalement à cette étude dans leurs annonces publicitaires. Ils ne peuvent s'y référer sur les étiquettes des produits ou sur les imprimés qui les accompagnent[6].

Malgré les exigences du gouvernement canadien, il existe sur le marché plusieurs produits ayant peu ou même aucune preuve de leur efficacité ou de leur sécurité.

Un autre point à considérer est la toxicité du produit. Certaines formulations, en particulier les glutaraldéhydes, sont TOXIQUES malgré toutes les affirmations contraires. Le fabricant d'une solution bien connue de glutaraldéhyde-phénate annonce que le produit est non irritant, hypoallergène, ne jaunit pas la peau, et qu'il est le ''désinfectant le plus efficace reconnu par le E.P.A.''. Malgré les avertissements répétés de l'E.P.A., qui considère cette publicité trompeuse, l'annonce continue à paraître dans les revues scientifiques. Effectivement, ce produit contient une concentration plus faible de glutaraldéhyde (0.13 pour cent vs 2 pour cent) qui le rend moins irritant[4] mais il demeure néanmoins toxique, et le phénate de sodium présent, pourrait aussi être très irritant. L'irritation et le jaunissement de la peau ont été rapportés par une étude récente[7].

LES GLUTARALDÉHYDES

Leur utilisation se justifie dans le cas d'instruments qui ne supportent pas la stérilisation par la chaleur. À cause de leur toxicité, de leur potentiel allergène et possiblement carcinogène, ils devraient toujours être manipulés avec prudence. Afin de minimiser les émanations nocives, le récipient devrait toujours être fermé et être utilisé dans une salle bien aérée. Le port de gants est suggéré pendant toutes manipulations et les articles ayant séjourné dans la solution doivent être rincés à fond.

L'utilisation du glutaraldéhyde serait contre-indiquée dans le cas d'articles poreux qui pourraient en absorber, tels les masques à protoxyde d'azote, les ouvre-bouches en caoutchouc, les empreintes et modèles de plâtre etc. De même, il n'est pas recommandé de tremper le manche des appareils à ultrasons ou à air comprimé dans le glutaraldéhyde, puisqu'ils pourraient se remplir d'une certaine quantité de produit pour se déverser dans la bouche du patient, ou encore être pulvérisé dans l'air ambiant pendant l'utilisation de ces appareils. Certains produits moins nocifs, tel le dioxide de chlorure (Exspore) ou l'iodophore, seraient plus appropriés pour le trempage de ces articles. Il existe deux catégories principales de solutions de glutaraldéhydes: les alcalins (pH 7,4-8,9) et les acides (pH 2,7-3,7). Les solutions alcalines sont recommandées parce qu'elles possèdent un spectre germicide plus large à la température de la pièce et sont moins corrosives. Elles nécessitent toutefois une activation avant d'être utilisées, ce qui réduit considérablement leur temps de conservation. Les solutions acides ne nécessitant pas d'activation bénéficient cependant d'une durée de conservation prolongée.

Les glutaraldéhydes sont aussi disponibles sous forme de glutaraldéhyde-phénate (0,13 pour cent), en concentration plus faible que les glutaraldéhydes 2 pour cent.

L'activité germicide étant dépendante du temps et de la température, une baisse de quelques degrés pourrait diminuer significativement l'efficacité de la solution. Certains fabricants recommandent une température de 25 à 30 C pour leurs produits. D'autres suggèrent la température de la pièce, c'est-à-dire 20 C.

Afin d'éviter d'endommager des instruments coûteux, tout nouveau produit devrait être mis à l'essai sur des articles en métal sans grande valeur.

Depuis quelque temps, certaines formulations de glutaraldéhyde sous forme d'aérosol sont apparues sur le marché. Vu leur coût relativement élevé et leur potentiel toxique indéterminé, leur utilisation comme désinfectant de surface de travail et d'équipement ne semble pas justifiée.

LES IODOPHORES

Ces produits sont strictement désinfectants et ne peuvent être employés pour la stérilisation à froid. Ils présentent toutefois certaines caractéristiques intéressantes. Étant peu coûteux, non toxiques et possédant un spectre germicide très large, ils sont indiqués comme désinfectant des surfaces de travail et de l'équipement. Leur propriété de libérer graduellement les molécules d'iodophore leur confère une activité résiduelle longtemps après être vaporisés sur les surfaces. Leur couleur ambrée est un autre avantage, étant un guide incorporé de l'efficacité germicide. La teinte disparaît à mesure que les molécules d'iodophore s'épuisent. Ces produits sont légèrement corrosifs mais certains additifs (nitrite de sodium) peuvent éviter les dommages de corrosion. La coloration des vêtements ou des surfaces de plastique n'est généralement pas permanente. Les iodophores ayant la particularité d'être plus efficaces en dilution élevée, il est déconseillé de concentrer la solution.

COMPOSÉS PHÉNOLIQUES SYNERGÉTIQUES

La combinaison des deux composés phénoliques (0-phénylphénol, 9 pour cent et 0-benzyl-p-chlorophénol, 1 pour cent) produit une action désinfectante à spectre large avec moins d'effets corrosifs et toxiques que

les glutaraldéhydes. Bien que ces solutions ne sont pas sporicides et ne peuvent être employées comme STÉRILISANT, elles peuvent servir pour le trempage d'instruments et de pièces à main qui ne supportent pas la stérilisation. Certains auteurs suggèrent que la consistance huileuse de ces solutions contribuerait à la lubrification des appareils rotatifs[14].

SOLUTION DE MAINTIEN (HOLDING SOLUTION)

Un nouveau concept en médecine dentaire consiste à placer temporairement tout instrument contaminé dans une solution désinfectante immédiatement après usage. Ceci permet de contenir la propagation des micro-organismes et d'initier le processus de désinfection avant qu'il y ait risque de blessure ou de contamination. Une fois rincés, les instruments peuvent être stérilisés normalement. Cette méthode a comme avantage supplémentaire de prévenir le dessèchement des débris organiques sur les instruments et de faciliter le nettoyage subséquent. Il est important de préciser que la solution de maintien est une étape qui précède mais qui NE REMPLACE PAS LA STÉRILISATION.

Il est acceptable de placer la solution de maintien dans un appareil de nettoyage à ultrasons[14]. Ces appareils sont extrêmement efficaces pour le nettoyage des instruments et aident à prévenir les blessures accidentelles lors de nettoyages manuels. L'appareil à ultrasons doit toujours rester couvert lorsqu'il est en service. Les composés phénoliques synégertiques sont recommandés comme solution de maintien, étant compatibles avec une grande variété de matériaux et n'étant que peu inactivés par la présence de matières organiques. La solution devrait toutefois être changée fréquemment.

HYPOCHLORITE DE SODIUM (EAU DE JAVEL)

Ayant des avantages semblables aux iodophores, l'hypochlorite de sodium est

TABLE I

Guide des produits désinfectants et stérilisants en médecine dentaire

	INDICATIONS	AVANTAGES	DÉSAVANTAGES
Iodophore désinfection: 30 minutes	1) Désinfection générale des surfaces de travail et de l'équipement 2) Articles en caoutchouc ou poreux: masque à protoxyde d'azote, empreintes, modèles de plâtre 3) Turbine (frotter avec détergent d'iodophore)	1) non toxique 2) peu coûteux 3) La couleur ambrée est un guide incorporé de l'efficacité	1) ne sont pas stérilisant 2) risque de corrosion sur certains métaux
Glutaraldéhyde 2 pour cent Glutaraldéhyde phénate désinfection: 20 minutes stérilisation: 7-10 heures	1) Stérilisation à froid des articles qui ne supportent pas d'autres méthodes de stérilisation 2) Désinfection de certains instruments dentaires	1) très efficace contre toutes formes de microorganismes 2) certains produits sont réutilisables pour la stérilisation	1) toxicité élevée: éviter tout contact avec la peau et les muqueuses. La salle doit être bien aérée et le récipient bien fermé. Ne pas employer sur des articles poreux ou en caoutchouc. 2) coûteux 3) peut endommager certains métaux
Dioxide de chlorure (Exspore) désinf: 3 minutes stéril: 6 heures (requiert une solution fraichement préparée)	1) stérilisation à froid des articles qui ne supportent pas d'autres méthodes de stérilisation. 2) désinfection de certains instruments dentaires	1) très efficace contre toutes formes de microorganismes 2) non toxique 3) peu coûteux	1) risque de corrosion élevé, ne devrait pas être employé pour la stérilisation de certains articles en métal 2) non réutilisable pour la stérilisation 3) produit très récent et peu connu
Composés phénoliques O-phénylphénol et O-benzyl-p-chlorophénol désinfection: 10-20 minutes	1) désinfection générale des instruments dentaires 2) solution de maintien (holding solution)	1) moins toxiques que les glutaraldéhydes 2) biodégradable 3) peu corrosif	1) ne sont pas stérilisants 2) Pourrait endommager les articles en verre ainsi que certains métaux. Bien rincer après le trempage.
hypochlorite de sodium (eau de javel) désinfection: 10-30 minutes	1) désinfection des surfaces de travail, évier, plancher etc.	1) peu coûteux	1) La solution doit être préparée quotidiennement 2) très corrosif 3) odeur désagréable 4) irritant, endommage les plastiques et les tissus

toutefois corrosif et plus irritant. Il peut endommager les vêtements et possède une odeur astringente qui s'accentue à mesure que son efficacité diminue. La solution est instable et doit être préparée quotidiennement.

DIOXIDE DE CHLORURE (EXSPORE)

Ce produit peu coûteux et mis récemment sur le marché possède une activité bactéricide élevée enviable. Il pourrait agir comme désinfectant en moins de trois minutes et comme stérilisant en six heures, à 20 C. La solution peut être réutilisée pour la désinfection d'instruments et de surfaces non métalliques mais chaque cycle de stérilisation nécessite une solution fraîchement préparée. Étant non allergène et peu toxique, le dioxide de chlorure est indiqué pour la stérilisation d'objets en plastique et en caoutchouc. Certains métaux pourraient être endommagés par ses propriétés corrosives. Contrairement au glutaraldéhyde, aucune précaution sécuritaire n'est nécessaire et le rinçage des instruments non métalliques après le trempage n'est pas indispensable[9].

RÉUTILISATION (RE USE)

Quelques produits ont un potentiel de réutilisation. Cela implique que la solution puisse subir des contacts biologiques répétés sans qu'elle ne perde son efficacité germicide. La réutilisation ne s'applique pas à tous les produits; certains doivent être renouvelés quotidiennement. Les fabricants de ces produits doivent prouver qu'ils possèdent la caractéristique d'être réutilisables. Il est cependant conseillé de bien vérifier l'authenticité de ces affirmations. Ce terme ne doit pas être confondu avec la ''durée de conservation'' d'un produit (shelf life) qui détermine la période de temps durant laquelle le produit peut être utilisé.

DISCUSSION

La sélection de produits germicides doit se faire en tenant compte de la complexité du domaine. Leur utilisation ne devrait jamais remplacer les méthodes de stérilisation traditionnelles, si celles-ci sont applicables. Toutefois, la plupart des cas de contamination sont causés par un mauvais usage du produit; le mode d'emploi ou la durée maximum de l'entreposage n'ayant pas été respecté. Le rôle de chaque produit est déterminé par ses caractéristiques particulières: son efficacité, son degré de toxicité et de corrosion. Évidemment, il est essentiel de simplifier les procédures aseptiques et de réduire le nombre de produits employés.

Récemment, certains ''designs'' d'équipements dentaires aseptiques sont apparus sur le marché. Ceux-ci ne possèdent pas de circuits électriques exposés, ne risquent pas d'être endommagés par les produits employés et défavorisent l'accumulation de microorganismes. Dans le cadre d'un programme d'asepsie global, le choix d'un tel équipement est certainement très avantageux.

À DÉCONSEILLER FORMELLEMENT:

1) Utilisation des ammoniums quaternaires pour la désinfection des instruments ou des surfaces de travail.
2) Utilisation de tampons d'alcool pour la désinfection des pièces à main, turbine, cavitron, etc.
3) Raccourcir le temps de trempage recommandé par les fabricants.

À CONSEILLER:

1) Stériliser toujours par la chaleur si possible.
2) Respecter les instructions des fabricants de produits germicides.
3) Manipuler les instruments souillés avec prudence.
4) Utiliser une solution de maintien.

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Jean Robert, MD, MSc, FRCP, chef du DSC de l'Hôpital Saint-Luc et professeur agrégé de clinique, département de microbiologie et d'immunologie de l'Université de Montréal.

OBITUARIES/NÉCROLOGIES

BIRD, RICHARD R.: Born in 1930, Dr. Bird graduated from the University of Toronto in 1953. He established a partnership practice with his father, Dr. Roland Bird, in Winnipeg. His father survives.

DUMONTIER, PAUL: Diplômé de la Faculté de médecine dentaire de l'Université de Montréal en 1951, le Dr Dumontier exerçait à Montréal. Il était âgé de 62 ans.

MUNN, ROBERT ELLSWORTH D.: Graduate of the University of British Columbia, (BA) and the University of Toronto (DDS) in 1957. He specialized in restorative dentistry and was, from 1969-83 in partnership with Dr. Donald Marshall in Vancouver.

SOLOMON, NATHANIEL: Diplômé de l'École de médecine dentaire de l'Université McGill en 1921, le Dr Solomon a exercé sa profession à Montréal. Il est décédé à l'âge de 86 ans.

WACHNA, ELIAS: A native of Toronto, born in 1907, Dr. Wachna was graduated from the dental school of the University of Toronto in 1931. He conducted a practice in the City of Toronto.

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***B:** Briefly, **E:** Editorial, **N:** News, **A:** Article (other than scientific), **SA:** Scientific article: **CA:** Clinical article.*

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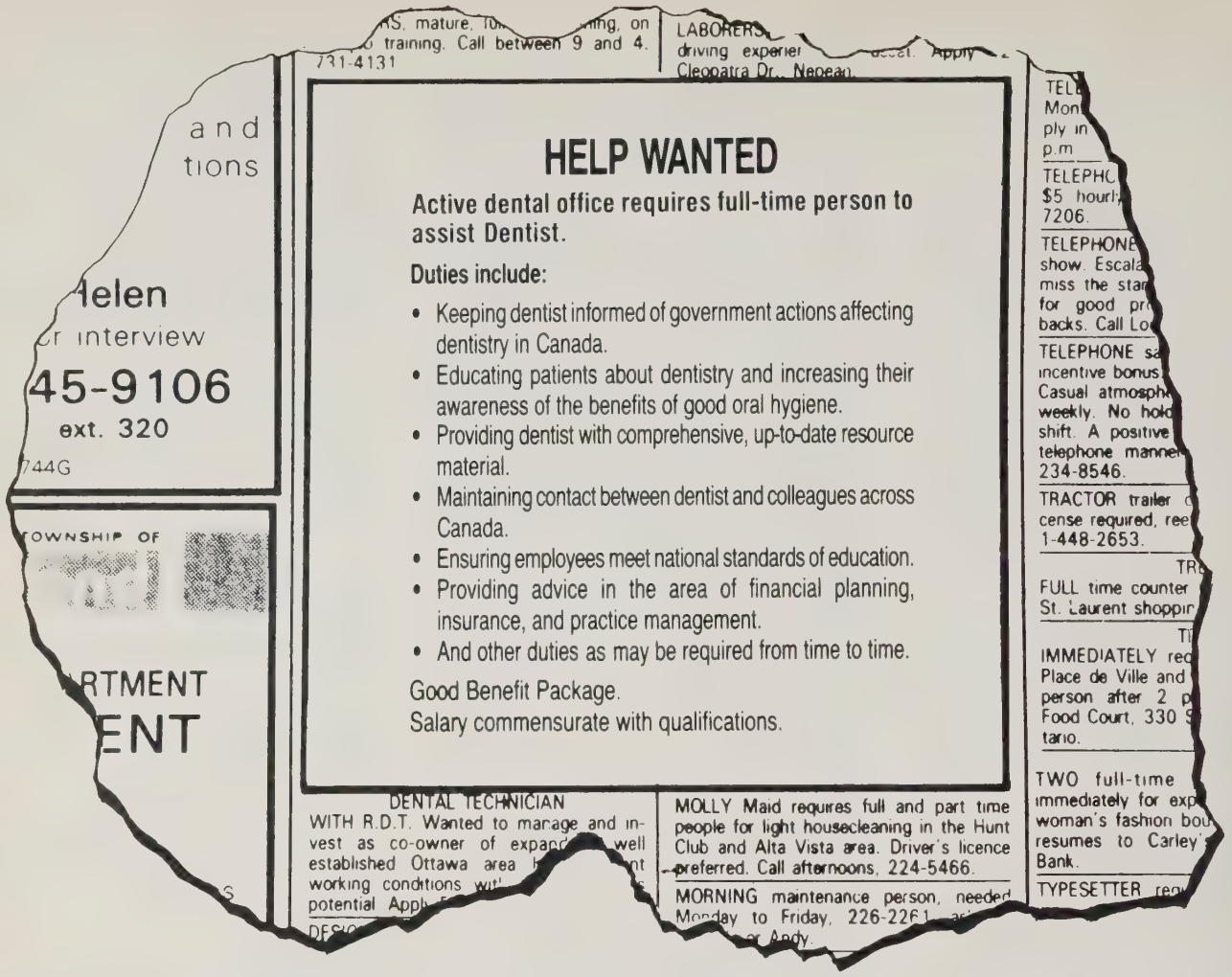

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Announcements

JANUARY/JANVIER 1988

January–April: Dental Refresher Program Contact: Continuing Education in Health Sciences UCLA Extension, 10995 Le Conte Avenue, Room 614, Los Angeles, California 90024 (213) 825-9187.

January 8: Dr. Gordon Christensen, "Dentistry Update" presented by the Ottawa Society for the Prevention of Dental Disease at the Talisman Motor Hotel, Ottawa, Ontario. Contact: Dr. D. O'Connor, 225 Metcalfe St., Suite 401, Ottawa, Ontario K2P 1P9.

January 15-17: Winter 1988 Dental Implant Symposium sponsored by the International Congress of Oral Implantologists at Resorts International Hotel at Paradise Island, Bahamas. For further details, contact: Margaret M. Jackson, Executive Director, I.C.O.I., 248 Lorraine Ave., 3rd floor, Upper Montclair, N.J. 07043 U.S.A.

January 16-23: 18th International Alpine Dental Conference at Hotel Annapura, Courchevel, France. For information, contact: International Dental Foundation, 24 Cadogan Square, London SW1X 0JP England.

January 19-23: Hawaii Dental Association's 85th Annual Scientific Session, Hilton Hawaiian Village Hotel, Honolulu, Hawaii. Contact the Association at (808) 536-2135.

January 21-24: 13th Annual Yankee Dental Congress in Boston Massachusetts. Over 125 scientific sessions and 400 technical exhibits. For information: Massachusetts Dental Society, 83 Speen Street, Natick MA 01760-4125 or call (617) 651-7511.

January 22-23: Computer Basics and Dentistry with Dr. W. Curtis Wise at the College of Dental Medicine, the Medical University of South Carolina. For information, contact: Dr. Gordan Stine, Director, Dental Continuing Education, Medical University of South Carolina, 171 Ashley Ave., Charleston, S.C. 29425-2601.

January 23-30: 19th International Alpine Dental Conference at Hotel Sofitel, Val d'Isere, France. For information, contact: International Dental Foundation, 24 Cadogan Square, London, SW1X 0JP England.

January 28-30: Miami Winter Meeting – A Climate for Excellence, Miami, Florida. Table Clinic applications are available. Contact: Dotti DuBreuil, East Coast District Dental Society, 420 South Dixie Highway, Suite 2-E, Coral Gables, Florida, 33146. (305) 667-3647.

January 28 – February 1: 13th Asian Pacific Dental Congress and 42nd IDA Conference, New Delhi, India. Theme Esthetic Dentistry. Contact: Secretariat, C-56, N.D.S.E. – II, New Delhi 110 049.

January 29-31: Periodontal Surgery – A Didactic and Laboratory Exercise at the Royal Plaza at Walt Disney World, Orlando, Florida. For information, contact: Dr. Gordan Stine, Director, Dental Continuing Education, Medical University of South Carolina, 171 Ashley Ave., Charleston, S.C. 29425-2601.

FEBRUARY/FÉVRIER 1988

February 5-6: Craniomandibular Seminar of B.C. by Dr. Jeffrey P. Okeson. The Clinical Management of Temporomandibular Disorders at Delta Hotel's Airport Inn Resort in Richmond, B.C. Contact: Cranio of B.C. 750-1675 Hornby St., Vancouver, B.C. B6Z 2M3 or phone (604) 682-8802.

February 6-13: Alpha Omega International Western Winter Seminar in Aspen, Colorado. Alpha Omega Professional Development Winter Seminar. Contact: Alpha Omega Fraternity, 2016 Bathurst St., Toronto, Ontario M5P 3L1.

February 10-13: Sports Medicine – For All Practitioners Course in Scottsdale, Arizona sponsored by the American College of Sports Medicine and the Children's Medical Center, Oakland, California. Contact: Stuart Zeman, M.D. Course Chairman, 2999 Regent St. #203, Berkeley, California 94705 U.S.A. (415) 540-8686.

February 13: Implants as Related to Periodontics with Dr. Stanley Ross at the College of Dental Medicine, the Medical University of South Carolina. For information, contact: Dr. Gordan Stine, Director, Dental Continuing Education, Medical University of South Carolina, 171 Ashley Ave., Charleston, S.C. 29425-2601.

February 19: Scientific Session of the Academy of Dental Materials, Hillenbrand Auditorium, American Dental Association, Chicago, Illinois. A poster session is planned. For information concerning this contact Dr. Evan Greener, Dept. of Biological Materials, Northwestern University Dental School, 311 E. Chicago Avenue, Rm. 10-019, Chicago, Illinois, 60611, USA. For information concerning the meeting phone (312) 908-6887 or (312) 642-9570.

February 19-20: Orthodontics in an Aging Society The Fifteenth Annual Symposium on Craniofacial Growth at the University of Michigan at Ann Arbor. For registration or more information, write to: Cranifacial Biology, The University of Michigan, 1024 Kellogg-Dental, Ann Arbor, Michigan 48109-1078.

February 20-27: Virgin Islands Dental Association Meeting Speakers: Dr. Ron Jordan – restorative, Dr. Gary Taylor – endodontics, Dr. Merril Menser – implantology. Social and spouse program. For information, registration and group rates at this limited attendance convention, contact: Dr. Robert Brandon, 85 Lonsdale Drive, London, Ont. N6G 1T4 (519) 657-3368.

February 21-24: 123rd Chicago Midwinter Meeting, Theme: "Values and Visions in Dental Practice." Contact: Chicago Dental Society, 30 North Michigan Ave, Chicago, Illinois 60602. Telephone (312) 726-4076.

February 26: Course by Dr. Terry Donovan, Contemporary Restorative Dental Materials – The pursuit of excellence. Calgary and District Dental Society. Contact: Dr. John Thompson 13 – 755 Lake Bonavista Drive S.E., Calgary, Alberta T2J 0N3. (403) 271-2777.

February 27: Dentistry for the Immunodebilitated Patient – A New Frontier with Dr. Joseph M. Poland at the Omni Hotel, Charleston. For information, contact: Dr. Gordan Stine, Director, Dental Continuing Education, Medical University of South Carolina, 171 Ashley Ave., Charleston, S.C. 29425-2601.

February 27: Basic Dental Radiology at the College of Dental Medicine, Medical University of South Carolina. For information, contact: Dr. Gordan Stine, Director, Dental Continuing Education, Medical University of South Carolina, 171 Ashley Ave., Charleston, S.C. 29425-2601.

MARCH/MARS 1988

March 6-7: 65th Annual Session of the American Association of Dental Schools. Commercial and Educational Exposition in Montréal at the Convention Centre. Contact: A.A.D.S., 1625 Massachusetts Ave. N.W., Washington, D.C. 20036 U.S.A.

March 11-15: International Association for Dental Research meeting, Montréal, Québec. Contact: International Association for Dental Research, 1111 14th Street N.W., Suite 1000, Washington, D.C., 20005. (202) 898-1050.

March 19-26: 20th International Alpine Dental Conference at Hotel Sofitel, Val d'Isere, France. For information, contact: International Dental Foundation, 24 Cadogan Square, London, SW1X 0JP England.

APRIL/AVRIL 1988

April 9: Update – The Medically Compromised Patient with Dr. Barbara Steinberg at the Medical University of South Carolina. For more information, contact: Dr. Gordan Stine, Director, Dental Continuing Education, Medical University of South Carolina, 171 Ashley Ave., Charleston, S.C. 29425-2601.

April 9-10: Update – Partial Denture Design at the College of Dental Medicine, Medical University of South Carolina. For information, contact: Dr. Gordan Stine, Director, Dental Continuing Education, Medical University of South Carolina, 171 Ashley Ave., Charleston, S.C. 29425-2601.

April 9-16: 21st International Alpine Dental Conference at Hotel Annapurna, Courchevel, France. For information, contact: International Dental Foundation, 24 Cadogan Square, London, SW1X 0JP England.

April 14-15: Annual Meeting of Alberta Society of Orthodontists and Western Canada Society of Orthodontists at Fantasyland Hotel in Edmonton, Alberta. Registration: Dr. J.L. Ares, 600 Empire Building, 10080 Jasper Ave., Edmonton, Alberta T5J 1V9 or phone (403) 421-1511.

April 14-17: California Dental Association's Spring Scientific Session, Anaheim, California. Contact: Cissie Cooper, 818 'K' Street Mall, Post Office Box 13749, Sacramento, CA, 95853-4749, (916) 443-0505, (800) 421-8702.

April 28–May 1: Alabama Implant Congress XIV in Birmingham, Alabama. For information, write: Alabama Implant Study Group, P.O. Box 4682, Birmingham, Alabama 35206 USA.

MAY/MAI 1988

May 15-20: 25th Australian Dental Congress, Sydney, Australia. "An international meeting during Australia's bicentennial". A limited number of brochures are available at the CDA, or contact: 25th Australian Dental Congress, P.O. Box 29, Parkville, Victoria, Australia, 3052.

May 20-22: Periodontal Surgery – A Didactic and Laboratory Exercise at the College of Dental Medicine, Medical University of South Carolina. For information, contact: Dr. Gordan Stine, Director, Dental Continuing Education, Medical University of South Carolina, 171 Ashley Ave., Charleston, S.C. 29425-2601.

May 27-28: The Human TMJ – A Didactic Exercise with Dr. James River and Dr. Richard Dom at the College of Dental Medicine, Medical University of South Carolina. For information, contact. Dr. Gordan Stine, Director, Dental Continuing Education, Medical University of South Carolina, 171 Ashley Ave., Charleston, S.C. 29425-2601.

JUNE/JUIN 1988

June 2-5: 88th Annual Conference of the Canadian Lung Association at Hotel Newfoundland, St. John's, Newfoundland. For information, contact: A. Les McDonald, Director, Health Education and Program Services, Canadian Lung Association, 75 Albert St., Suite 908, Ottawa, Ont. K1P 5E7 or tel. (613) 237-1208.

June 3-4: Operative Dentistry at the College of Dental Medicine, Medical University of South Carolina. For information, contact: Dr. Gordan Stine, Director, Dental Continuing Education, Medical University of South Carolina, 171 Ashley Ave., Charleston, S.C. 29425-2601.

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About The Author: Lorne E. Rozovsky, Q.C., is a member of the Halifax law firm of Patterson Kitz and an adjunct associate professor of law and medicine at Dalhousie University, where he also lectures in dentistry. In 1986 he was made an honorary fellow of the American College of Legal Medicine.

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June 3-5: Annual Meeting of the Canadian Academy of Periodontology at the Pan Pacific Hotel in Vancouver British Columbia. The featured speaker is Dr. Jan Lindhe. For information, contact: Dr. E. Chesko, 104-520 17th St. West Vancouver, B.C. V7V 3S8, (604) 922-4711 or Dr. K. McAnulty, 304-126 E. 15th St., North Vancouver, B.C. V7L 2P9, (604) 980-5822.

JULY/JUILLET 1988

July 1-3: British Dental Association's Annual Conference, Harrogate International Conference Centre, Harrogate, Yorkshire (UK). "Facing the Future". Contact: Linda Bridges, Conference Office, 64 Wimpole St., London, England. W1M 8AL.

AUGUST/AOÛT 1988

August 7-11: Ninth Congress of the International Association of Dentistry for the Handicapped, Philadelphia, PA. Contact: Public Relations, (215) 576-2303, Abington Memorial Hospital, Abington, PA. 19001.

August 12-14: 4th Annual A.C.O.I. Symposium sponsored by the American College of Oral Implantology and the International Congress of Oral Implantologists in Denver, Colorado. For further detail, contact: Margaret M. Jackson, Executive Director, I.C.O.I., 248 Lorraine Ave., 3rd floor, Upper Montclair, N.J. 07043 U.S.A.

August 21-24: Canadian Dental Association's Annual Convention, at the Edmonton Convention Centre, Edmonton, Alberta. Contact: Linda Teteruck, Canadian Dental Association, 1815 Alta Vista Dr., Ottawa K1G 3Y6. (613) 523-1770.

August 21-25: New Zealand Dental Association's Biennial Conference, Christchurch, New Zealand. Contact: Dr. E.A. Cope, Conference Secretary, 200 Cashel Street, Christchurch 1, New Zealand.

SEPTEMBER/SEPTEMBRE 1988

September 7-9: Bristol 88 World Dental Conference University of Bristol, England, U.K. Decisions in Forward-Looking Oral Health Care. For information contact: Mr. B.P. Matthews, Bristol 88 World Dental Conference, University of Bristol, Senate House, Bristol BS8 1TH ENGLAND, U.K.

September 23-25: California Dental Association's Fall Scientific Session, San Francisco, California. Contact: Cissie Cooper, Director, Scientific Sessions, CDA, 818 "K" Street Mall, P.O. Box 13749, Sacramento, California, 95853-4749. (916) 443-0505.

OCTOBER/OCTOBRE 1988

October 9-14: International Workshop on Cranio-facial Trauma sponsored by the Australian Cranio-Maxillo-Facial Foundation. For information, contact: Mrs. D. Moody, Executive Officer, 226 Melbourne St., North Adelaide, S.A. 5006, Australia.

October 25-27: Medical/Hospitech 88 — 2nd International Medical, Hospital and Dental Equipment and Facilities Exhibition in Bangkok, Thailand. For more information, contact: SHK International Services Ltd., 22/F., 151 Gloucester Rd., Hong Kong. Telephone: 5-8326100.

October 26-29: 42nd Annual Meeting of American Academy for Cerebral Palsy and Developmental Medicine Deadline for free papers: February 12, 1988. Royal York Hotel, Toronto. INFO: AACPDM, P.O. Box 11086, Richmond, Virginia 23230 USA.

NOVEMBER/NOVEMBRE 1988

Novembre 21-25: Festival international du Film et de la Vidéo dentaires–XIèmes Journées dans le cadre du Congrès International de l'Association Dentaire Française. Bulletins d'inscription au concours devront parvenir au Secrétariat avant le 15 février 1988. Renseignements et inscriptions: Dr. M. Dolovici, Secrétaire générale du Festival international du Film et de la Vidéo dentaires, 92 avenue de Wagram, 75017 PARIS.

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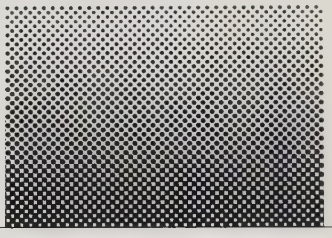

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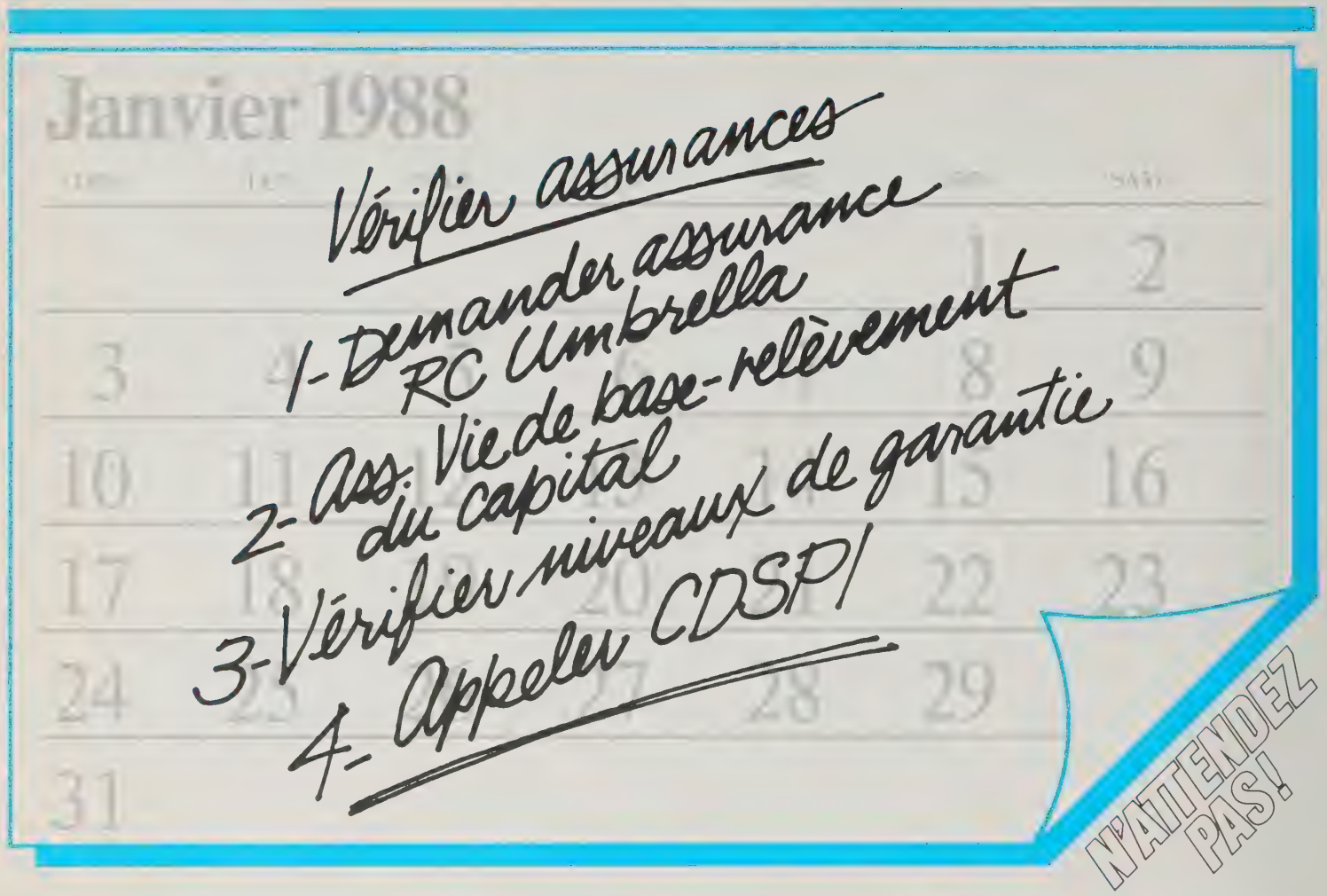

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BRITISH COLUMBIA—Sunshine Coast: Well established private family practice in growing recreational/mill town on sea and lake. Leaving to begin semi-retirement. My great staff wants the practice to continue with caring dentist. Info package — Dr. Marv Olson, 4662 Marine Ave., Powell River, B.C. V8A 2L1 Phone: (604) 485-2851 or 725-3727.

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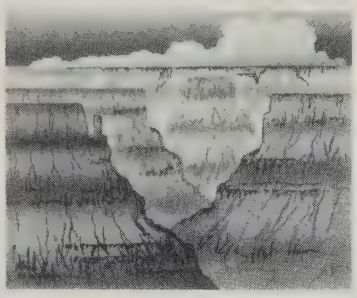

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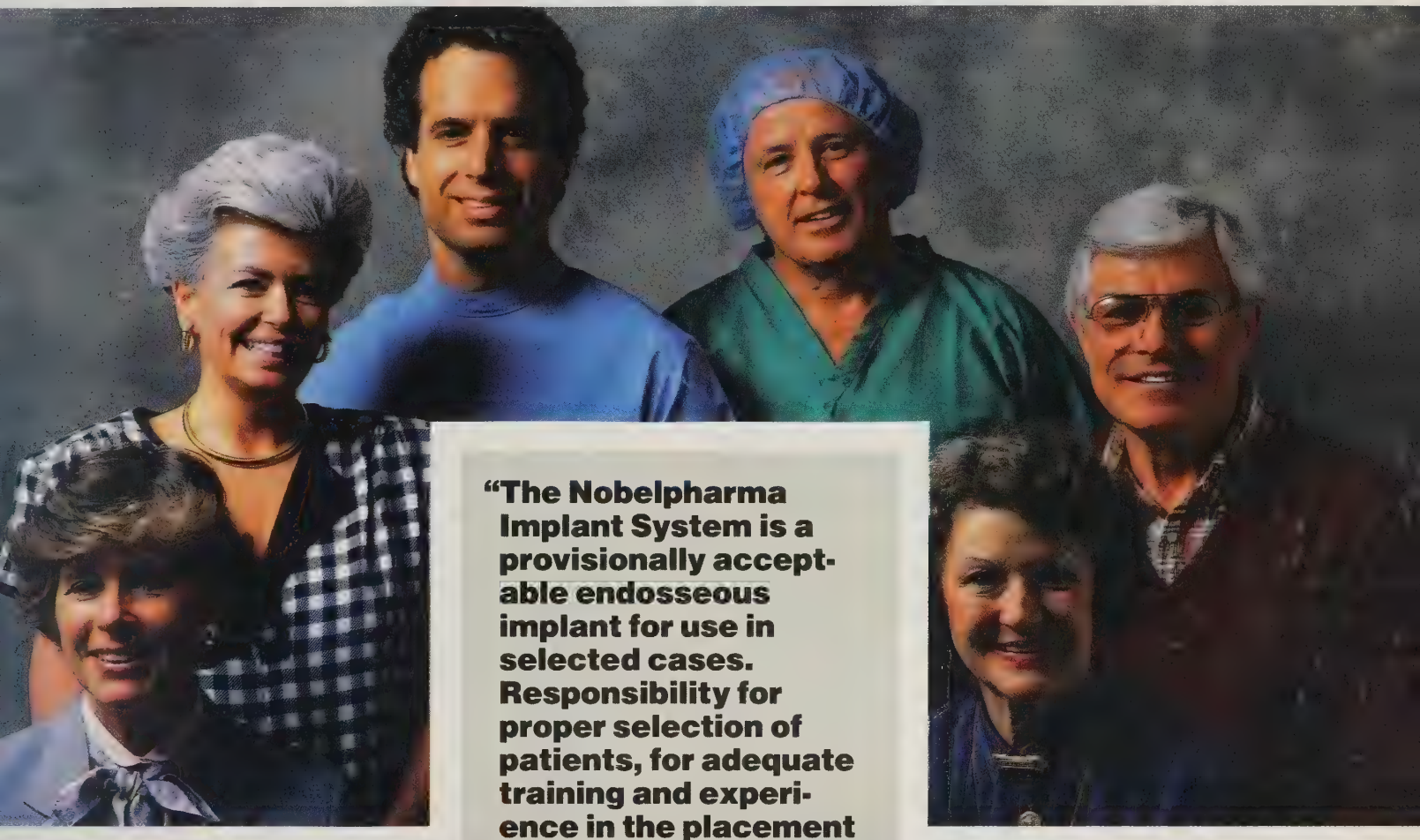
If other dental implants are as good as they say, how come they can't say this?



After examining all the clinical evidence supporting the Nobelpharma Implant System of permanent teeth replacement, the ADA did something unprecedented for endosseous implants.

They gave us their provisional acceptance. We think **the facts** speak for themselves.

Over 20 years of clinical research and more than 90,000 implants.

Success rates of 96% for upper jaw bridges, 99% for lower jaw bridges* duplicated worldwide

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"The Nobelpharma Implant System is a provisionally acceptable endosseous implant for use in selected cases. Responsibility for proper selection of patients, for adequate training and experience in the placement of the implant and for providing appropriate information for informed consent rests with the dentist."

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- Most advanced matched system of hardware and software
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So before you stake your reputation on a dental implant system, take the time and effort to compare the facts.

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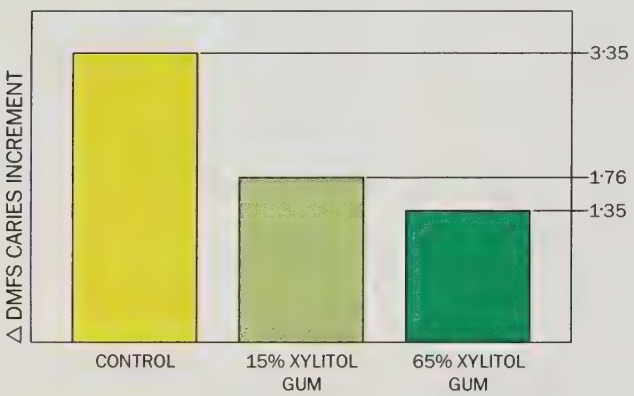
nternational Journal of Oral Surgery; 1981, No. 10, p. 387–416, "A Fifteen Year Study of Osseointegrated Implants in the Treatment of the Edentulous Jaw," Table 5, p. 399, Group 2.

Nobelpharma

Now, new studies prove that Trident with xylitol helps fight cavities.

Xylitol is a naturally-occurring sweetening agent found in plants, vegetables, even the human body. For years, scientists have suspected that this natural substance may play an active role in cavity prevention. Now, new clinical studies prove it.

Independent trials[1] conducted by international institutions such as the World Health Organization have substantiated existing evidence, gathered through concentrated research over the last ten years, that indicates xylitol cannot be metabolized by decay-causing microflora in the oral cavity.



This one-year study conducted by the Montreal General Hospital and the University of Montreal, Department of Preventive and Community Dentistry, on 433 eight and nine year old Montreal children clearly demonstrates a protective effect of xylitol-containing chewing gum in a school caries preventive programme. (The control group had a normal diet and preventive programme.)

Trident Sugarless Gum, which contains xylitol,[2] is now being recognized as more than just a harmless treat. When used at least twice a day, it has been proven to be an important adjunct to the regular oral hygiene programme of brushing, flossing, rinsing, and having fluoride treatments plus biannual dental check-ups.

Now, you can recommend Trident as an effective way to reduce the threat of acidogenic action after carbohydrate snacking, especially for young, caries-prone patients. And, the great new taste of Trident means that patient compliance is assured.

Trident. More than just a treat.

MORE THAN JUST A TREAT

† Reg. T.M. Warner-Lambert Company, Adams Brands Mfg. Auth. User.

[1]The Finnish Xylitol Study, 1982-1985. The French Polynesian WHO Study, 1979. The WHO Hungarian Study, 1981-1984. The Montreal Chewing Gum Study, 1987. Case studies available upon request.

[2]Trident Peppermint, Cinnamon, Freshmint, and Fruit flavours only.

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